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Catching the Breath of the Sea

RAYMOND A. WOHLRABE

THE sea—perhaps it drove you down to your stateroom once upon a time with a most unwelcome feeling at the pit of your stomach and you hung a "Don't Disturb!" card on the knob of the stateroom-door and a little brown paper box on the rail of your bed and lay down to pray that your "sea-legs" would come mighty soon.

But that is not the sea of which I write. If that is the sea to you, you're prejudiced; so why read on?

The sea is more than water with a sky on top. Its atmosphere—its life—its breath it is that charms. That little drove of fishing-smacks and the fog-bank pushing them to shore. That wild, leaping pack of porpoises on the trail of an ill-fated whale. A liner that gracefully shoves the pier away and crawls out on the ocean's bosom. Those spuming, shooting jets of froth and the rocky shore they pound upon. The bobbing brown of heads of kelp in miniature sargasso seas and the screeching and screaming flock that swoops down to salvage for food a carcass that is drifting out. That is the sea that is fit to fix in silver on a film, and print and keep within the leather-covers of a treasure book.

The sea—its ships—white wings of sailboats standing out against its blue—tugboats that grunt a siren in the fog—freighters—ferryboats that shuttle to and fro across its arms—sampans—junks—dories—a grim, gray shadow of a man-of-war.

Then, too, there is its shoreline with its arms and inlets and the smooth broad shelf where the surf runs high. Across that shelf there breaks the green of curl of wave that spills itself to hiss along the sanded floor. There are its swells that rattle the blackened bones of wharf to crunch their barnacled crust and groan.

Perhaps you, too, know the sea as I have known it—not as a boundless waste of water lacking beauty. And when the routine of your everyday calls you away, then you miss it as much as I.

When you sit on a wintry evening with the glow of the hearth beating out upon you, and the moths that are snowflakes slipping down black glassy squares of window pane, and you turn the leaves of that book with a limp leather-cover, do you glimpse of the sea again? Out of those pages of memories does there come the thunder of its waves? Or did the spume and froth that caught you, spoil the image you thought was fixed? Is there the trail of silver spangles in the full moon's wake?

For the hours that I have plotted with a camera by the sea, what little loot I took has been treasured greatly since.

Aside from weather, stops, and time there are other things to occupy the mind when you scheme to trap old Neptune in his haunts. Position means a great deal. Then, there is the spray and froth the wind whips in. The angle at which the sunlight strikes the surface of the water. Reflection. And when your picture is "cornered" and you have thought of each of these and others you have learned, then the picture might be yours. Quite often not.

How often one can tell the seasoned amateur from the neophyte by simply asking, before the film has left the camera-box, "Did you get a good one?"

From the neophyte who aimed and snapped, then feasted eyes upon the scene, there will come—

"I'll say! I got a peach!"

From him whose failures have loosened confidence in "hurry-ups"—

"I guess so."

But for the seasoned amateur's reply, a simple "I don't know" will be enough.

And so it goes with pictures of the sea.

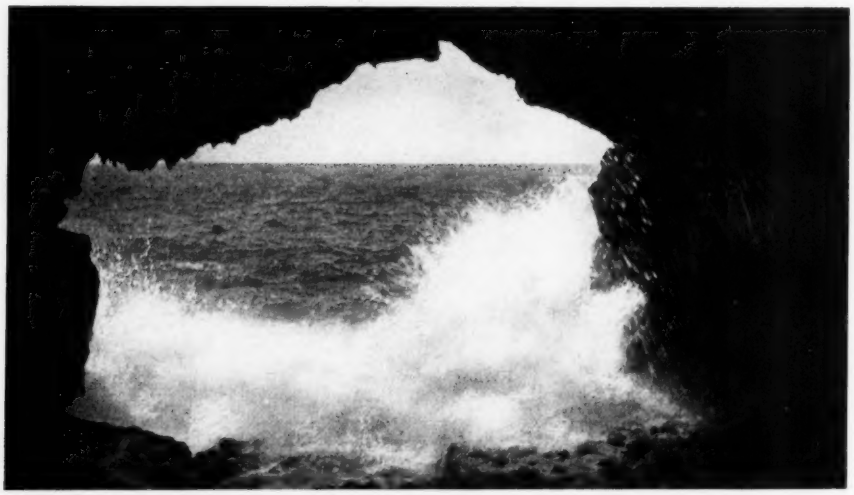
Reflections in a picture lend that touch that

makes one feel the swells and takes the flatness from the picture that you get. And with reflections, position means much.

There is a fishing-schooner a hundred feet away. Between, beyond, beside—all around about it lies the sea. If it is snapped from a rowboat or canoe, the reflections will be spread out and cover the greater part of the water that shows between one and the ship—black blotches tangled with white snakes of light. The reflections of its masts will then be twisted sometimes until they are lost. Suppose, instead, you make the picture from an ocean liner as it passes by. The reflection now is not as twisted as it was before. It is slightly shorter; but holds more to the schooner's shape. A reflection shot from a position somewhat above the water's surface is clearer and less distorted by the swells or waves. Of course, perfect reflection requires a quiet sea.

Now suppose that we are on a rocky coast with breakers plunging in and pounding hard. They froth and seethe, and spurt in jets of white. And, say, it is power, strength, wild raging whitecaps that we want to get. The action, not the coast-line, we are after now. Here, too, position means the most. Photograph that scene from off another cliff, and then again from on the sands just out beyond the strip that frothing water-fingers reach. In the first, the waves are flat—you get the tops. In the second, you have caught them broadside—shown their height—and showing height of wave you've added power, that grappling strength of sea you aimed to get.

When photographing many things one can leave the camera open and use the finder to help him judge which point is best to make the picture from. But wandering with the lens exposed along the beach or on the deck, you are courting failure for the time the prints are made. The spray from off the bow is in the air. Breakers and whitecaps also mix the sea with the breeze that is sweeping in. And with the lens exposed to this fine mist collecting on it, there is danger of its affecting the sharpness of the image on the film or, if not blurring it in general, of blurring it in spots. I have found it best to do the judging of which position is best with the camera in the case and then, when absolutely necessary, bring the camera out to do the focusing and make the final adjustments and changes in the point of view before the picture is snapped.



HAWAIIAN WATERS AT PUNA — RAYMOND A. WOHLRABE

Seascapes—views of sea with neither land nor ships in sight—are difficult to make when the result you wish is a picture that has "atmosphere". There may be other things; but to me, weather and the time of day are all important when the picture to be shot is a seascape.

Here are conditions I would call ideal: A strong breeze whipping up huge whitecaps or large swells. Early morning or late afternoon, so that the rays of sunlight strike the crests of those waves; and in doing this, deepen the shadows of

(Low Position)

(High Position)

NEPTUNE HAMMERS ON THE GOLDEN GATE
RAYMOND A. WOHLRABE

their troughs and bring out more contrast between the two. Here and there, a fleecy lump of cloud or a flock of clouds sweeping across the horizon; but not high enough to shut out the sun. And a gull or albatross swooping across those waves would be exceptionally good luck.

Conditions just the opposite are these: A sea, not smooth and glassy; but just rippled by the breeze. A sky with clouds in layers, gray and flat, or just a sky with not a cloud upon its blue. What picture interest is there in a sea like that? To me, there's none at all.

And one more type of picture brings to me the "breath of sea", the so-called "moonlight" picture snapped in early morning or late afternoon with the sun behind a cloud near its rim and the stop down to U.S. 64 or 128.

Using the usual precautions one takes in hunting with the camera and watching light to bring out contrast so that the picture is not flat; watching position to bring out that characteristic one wishes to emphasise; and taking reasonable care that the lens is not spotted with the spray—then there should be pictures in that book that bring again to you the sea.

Then you have caught the breath of it—and your pictures breathe it back to you.

Einselbilder

HERBERT C. McKAY, A.R.P.S.

A GROUP of us were sitting in Tom's den discussing various matters, including photographs, trout-flies, and similar items. I mean, the others were discussing the flies—I'm a bait-caster myself; but that is beside the question. One of Tom's always interesting stories was of a big fellow he had landed the season before. Naturally, his story was accorded that respectful "wish-we-could-believe-you-but-can't" silence which every fisherman knows so well; but Tom was undisturbed. He continued:

"I'll bet I fought that old scoundrel for two hours before I landed him; but finally, land him I did—what do you think of him?" The last question startled us, but we turned to look at the wall where Tom pointed, and there was a beautiful bromoil of a fisherman landing his trout. In fact, we had supposed it to be a print which had been picked up during the course of one of Tom's rambles; but now as we looked at it, we saw that it was, indeed, Tom himself. At that exact second, fishing took second place and photography came to the fore.

"How'd you do it?"

"Bromoil."

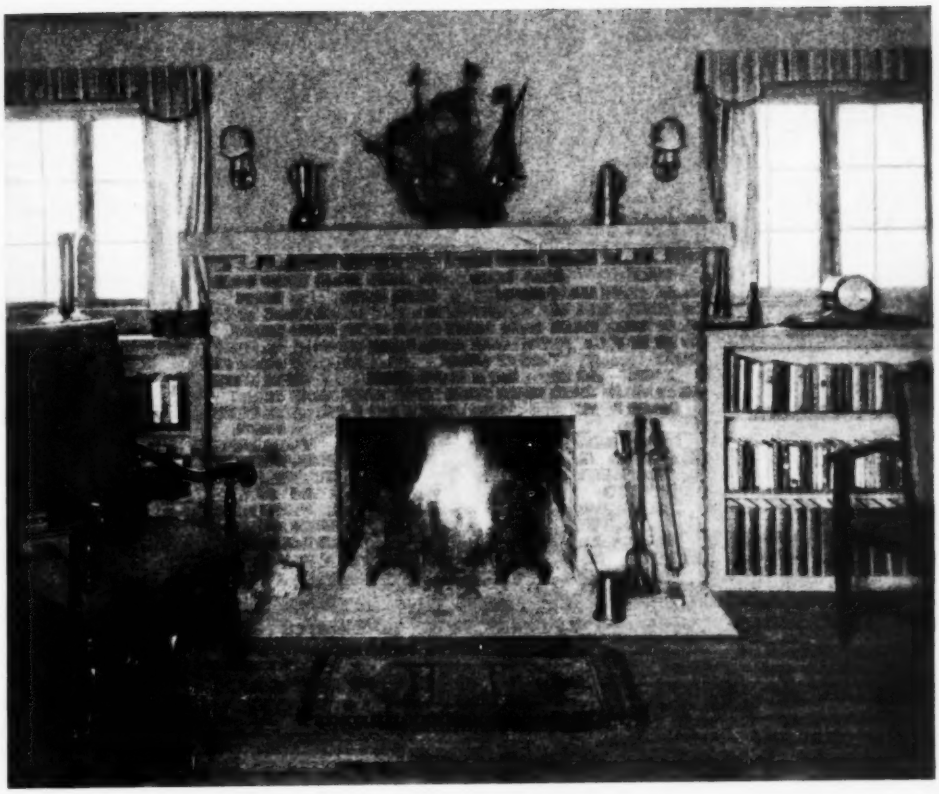
"Of course! But how did you get the negative? Is that Graflex work?"

"No, it isn't. I didn't want to take any regular camera with me on the fishing-trip, so I just took—but wait a minute! I'll show you some more of the same kind."

Tom disappeared, leaving us standing in a group about that bromoil. Soon he returned with a small case under his arm and some lengths of electric connecting-cord dragging behind him. We shouted in glee, for Tom had always maintained that motion-pictures held no promise for the man who wanted to indulge his artistic instinct through the medium of photography. Tom grinned sheepishly, we thought, and said nothing. We saw, however, that this projector was an unusual instrument. The reels were very small in diameter, and wide enough for standard-gauge film. When we saw these, light began to dawn; but we kept still, awaiting developments.

Tom arranged his machine to suit his taste, then crossed the room and pulled down an aluminum curtain—or should I have said silver screen? A switch snapped, and the familiar rectangle appeared upon the screen. Then there was a snap, and a picture appeared upon the screen—Tom, with his kit ready for the fish. Scene followed scene. The projected pictures were beautiful, as beautiful as lantern-slides can be; and we all know that the lantern-slide is the height of perfection in still photography. We were absorbed in the exhibition; but when a scene appeared lying upon its side, we smiled, and someone began to laugh. The laugh stopped abruptly, however, when we saw the image upon the screen swing around until it was in its proper position. Things were happening, and with a vengeance. Here we thought that Tom had sprung the old single-frame movie on us; but he was doing things which were new to us. Besides, we couldn't imagine a standard-gauge motion-picture camera being carried where an ordinary camera was too bulky.

Tom went ahead with his story, which had become exasperating because we wanted to know the "how". Finally, however, he floundered and asked us to wait until he got his notebook. We eagerly consented, and all of us



THE CHEERFUL HEARTH
GEORGE W. FRENCH
HCNORABLE MENTION—MISCELLANEOUS ADVANCED COMPETITION

made a concerted rush toward the projector; but Tom leaned over it and pushed us back with outspread palms. He asked us to restrain our curiosity for just a few moments longer and made us promise that we would not approach or touch the projector just then.

He left the room and returned almost immediately with a neatly bound notebook in his hand. He turned over the pages hurriedly, and then found the page for which he had been looking. He passed the notebook to us, and there we saw the story he had begun to tell us. The text-matter of the book was neatly typed, and scattered here and there were small prints about one inch wide and perhaps an inch and a half long. They were excellent, having exquisite detail and having been made with flawless technique. As we turned the pages we gasped with astonishment; for there was the original of the bromoil which was hanging behind us! The original was one of the tiny photographs used throughout the book, but the enlargement was at least ten by fourteen inches. This was enlargement with a vengeance! This was too much. We demanded immediate explanation, and our demand was couched in no uncertain tones. Tom surrendered; but first he gave to each of us a small roll of paper. We examined these rolls and found each roll to be a series of these same photographs. We had seen the prints made from one set of negatives as a continous roll of paper-prints, as diary illustrations, as positive film for "film-slide" projection, and in the form of an enlargement. We were totally converted to the work; but as yet we knew nothing of the *modus operandi*.

I will give you the explanation in Tom's own words, for I am sure that many readers of PHOTO-ERA MAGAZINES will wish to follow his example as we did.

"You all know", Tom said, "that the idea of using single frames of motion-picture film as a substitute for lantern-slides is not new. It has been tried with more or less success by many experimenters; and at present this work is very popular in Europe, where sets of films may be purchased just as we purchase stereo-slides. This work received its first great impetus with the introduction of the DeBrie Sept camera; and, at this time, the Sept is being used more widely for this purpose than to make motion-film. There were some objections to this work, though. The camera was heavy, and larger than the usual vest-pocket camera. It could, like most cameras, be carried conveniently only on photographic expeditions. One did not like to carry it on casual walks, nor does one like to walk about in a city with a camera case slung over his shoulder unless he is out for the sole purpose of making photographs.

"But the idea was too good to let pass, and manufacturers here and abroad began to make cameras without the motion mechanism, for the sole purpose of making single pictures upon motion-picture film. These cameras are all well made and are not to be confused with toys. They are rather expensive, when their size alone is considered; but their excellent construction and optical equipment warrant this. I won't make any comparisons; for, as I have said, they are all good, and each one of you will probably go and buy a model different from that chosen by the others. However, I am going to show you my camera to give you an idea of the general type of these instruments".

At this point, Tom unbuttoned his coat and showed us, actually resting in an everyday, normal vest-pocket, a tiny camera, rich in morocco cover, enamel, and nickel. He drew it out and continued with his explanation.

"When I was abroad last summer, I saw a number of cameras of this type; but I chose this one. You see, it is barely an inch thick, yet it has a two-inch lens. You grasp the edge of the lens-mount and pull it out until it stops, then you turn it to the left and it locks in place. This is the proper setting for infinity. This is all you need for usual shots on a journey. As you know, the hyperfocal distance for this lens at F/3.5 is forty feet; so that, by setting it at that point, you have everything from twenty feet to infinity fairly sharp. To get this setting you press down this spring on the front of the camera, which unlocks the focusing-mount. The spiral jacket is calibrated for all distances from one and one-half feet to infinity.

"Now, here at the right end of the top you see a milled button. You turn this in the direction of the arrow as far as it will go. This single operation winds the film and sets the focal-plane shutter. When the shutter is set, this second knurled button indicates the time. You see it has a "Time" setting and instantaneous exposures from one-twentieth to one five-hundredth. Now raise the camera to the eye and look through this peep-hole. This optical finder indicates your exact field, right side up and large enough to be distinctly seen. A pressure upon this button, between the shutter-setting button and the time button, releases the shutter.

"Now then, when you want to make close-ups for subsequent enlargement, you want the utmost detail. This means that you cannot use the hyperfocal distance. So you make use of another unique feature. You see this slot? This is for the range-finder." He pulled out a small, black

"SIT UP NOW!" PAUL W. KEARNEY
HONORABLE MENTION—EXPOSURE MAKERS' COMPETITION

object about one-half inch square and perhaps four inches long. "This range-finder slips into the slot in this manner. Now, if you look into the eyepiece of this finder, you see the object as though you were looking through a yellow filter. In the center is a transparent, colorless circle. In this inner circle the details of the object are misplaced. You turn this indicating dial until these details coincide in both images. Then the distance of that object is indicated upon the dial of this range-finder. You set the lens-mount to correspond, and you know you have the correct focus. It is all very simple, isn't it?

"What's that? The size? Oh, the size is a double motion-picture frame, 24 by 36 millimeters. With the printing-machine for this film you can either print this size or the standard motion-picture frame size. Moreover, you can advance the negative independently of the positive stock, thus selecting any negative you prefer without cutting the film. The enlarging is done with an enlarger which closely resembles the ordinary amateur vertical type enlarger, but designed for use with this particular film."

When Tom had completed his explanation, we examined the camera with great interest. In fact, so great was our interest that each one of us now owns one just like it. As Tom said, we found several models on the market, some equipped with the usual sector shutter and others with the focal-plane type; but this particular model had appealed to us because of its many truly unique features, and we have all had the utmost satisfaction in using the instruments. Now, when the unexpected picture turns up we get it; for we never go abroad without the little Leica tucked away either in a pocket, or slung under our coats where it is not noticeable.

For the benefit of those of you who might like to obtain such an outfit, I will say that the cameras we are using are the Leitz Leica models. You can also obtain other cameras for this purpose, such as the Sept, Ansco Memo, Krauss Eka, Ernemann Bobette, and others.

Astronomical Amateur Photography

WERNER MUELLER

SOUNDS big, doesn't it? for how can anyone do anything astronomically without large telescopes, meridian circles, spectroscopes, and what not? For years, writers of popular books on astronomy have emphasised the fact that one can have much pleasure in star-gazing without artificial aids to vision, except, perhaps, opera- and field-glasses. No one, however, seems to have called attention to the use of the camera of the amateur for additional astronomical entertainment. It is the writer's intention to tell you something about "star trailing", a branch of amateur photography that is as simple as it is fascinating; but before we go into technical detail, let us see what we mean by star trailing.

In some astronomical textbooks, especially those of a more or less popular character, we find cuts which are supposed to illustrate the apparent daily motion of the fixed stars in different regions of the sky. Showing almost invariably nothing but white lines on a black background, such illustrations, although they are scientifically beyond reproach, do not make a strong appeal to the casual observer. To all appearances, they might have been made from a blackboard on which chalk-lines had been drawn. There are no terrestrial objects to reveal the true nature of such lines as star-trails; nor is the fact brought out at all that the daily motions—the astronomer speaks of them as the "diurnal" motions—are due to the rotation of the earth on its axis. Given a tree or house for a foreground, the background will take care of itself. The reader at once has an idea what it might be all about. He knows immediately that he is looking at a picture of the evening-sky, although the many white arcs or streaks may look peculiar enough to him.

The accompanying illustrations and their legends should speak for themselves; but a few explanatory remarks might not be amiss. Figure (1) shows the motions of the stars in the immediate neighborhood of the celestial north pole. In making this picture, the camera was pointed directly at the Pole Star, and the shutter left open for three and a half hours. It is interesting to note that Polaris, as represented by the shortest, brightest arc near the center, is not exactly on the pole, for if that were the cases it would show as a speck only. Figure (2) shows star-motion in an entirely different region of the sky, namely, the equator. As the most suitable subject, the constellation of Orion was chosen; first, because it is the most striking and beautiful winter-constellation, and also because the three central stars, also called the "belt" of Orion, are almost exactly on the celestial equator. In this case, the exposure lasted half an hour only, because it was desired to keep the trails of the eight chief stars within the range of the camera. Note that the belt star-trails are straight, whereas the trails of Betelgeuse and Rigel are very slightly curved toward the belt. We are furnished here with visible proof of the fact that the stars of the belt are practically on the equator, whereas Betelgeuse is north, Rigel south of that great imaginary line that divides the northern from the southern celestial hemisphere. Star-trails in the southern region of the sky are shown in Figure (3). The arrangement is not ideal; but it was the best that could be accomplished in the circumstances prevailing at the time. It is at once apparent from the upward direction of the trails, that, in this case, the camera did not point exactly south, but slightly toward the east. The most prominent trail is that of Spica, the brightest star in Virgo.

The technique of producing photographs of star-trails presents few, if any, difficulties. Any camera provided with a firm support and a shutter that permits "time" exposures can be used. Figure (4) shows the outfit used by the writer. It consists of a folding camera, Ica Trix, fitted with a Zeiss Tessar F/4.5 of 16.5-cm. focal length, and a sturdy tripod with tilting-top. It stands to reason that with such an outfit any region of the sky may be explored at will. In making the pictures described above, the lens was used wide open; but the writer is convinced that any lens with an opening of F/8 or, perhaps, even smaller could be used. The tilting-top could also be dispensed with, the usual inexpensive ball-and-socket joint being sufficiently strong for most smaller folding cameras. For the proper arrangement of the picture, a focusing-screen or a finder of the iconometer type is almost indispensable; the small reflecting finders usually fitted to amateur cameras are useless because the star-images are too small to be easily seen. Fast negative material should be used, the speed of the standard Kodak roll-film being sufficient. In arranging the picture it is important that the lower portion include terrestrial objects such as housetops or trees; the reasons for this precaution are sufficiently explained above.

FIGURE 1

FIGURE 2

FIGURE 3

WERNER MUELLER

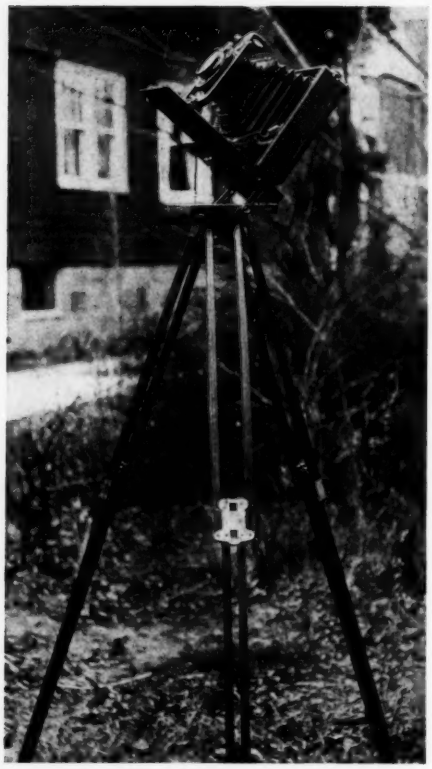


FIGURE 4 WERNER MUELLER

Any clear, moonless night will do, provided there are no bright lights within range of the lens. Care should be taken that the principal stars do not move out of the picture, as happened when the view shown in Figure (3) was made. Making the actual exposure involves no steps with which the amateur is not familiar, because, after all, we are dealing here merely with prolonged time-exposures. The camera should be outdoors; and exposures through closed windows should never be attempted on account of the decidedly poor optical qualities of window-glass. While the shutter is open, the camera should not be jarred or moved in any way. A record of every individual exposure is highly desirable, especially as to the length of the exposure. If exposures are made on cold, winter-nights, which, by the way, are the best adapted for star-trailing, care should be taken that the camera is not simply folded up and packed away after it has been taken into the house. When the camera is taken into a warm room, moisture is sure to condense on the lens as well as on the metal parts of the camera. The moisture should be removed at once and the camera left open until no more moisture is deposited, *i.e.*, until it has taken on room-temperature.

Needless to say, star trailing is an interesting pastime for any photographer with a leaning toward astronomy, or for the amateur astronomer with a camera. After the pictures have been finished the fun is by no means over, for the reconstructions of constellations, the comparisons between the lengths of the trails and the exposures, and so on, are a source of never-ending entertainment. Last but not least, the pictures are a valuable addition to any album, for they never fail to arouse the interest of those to whom they are shown. The writer claims no originality for the method of obtaining star-trails such as are shown on these pages—he merely wishes to call the amateur's attention to a field that has not been explored as much as it deserves.

The Voice of the A. S. C.

THE tremendous influx of amateur kinematographers has brought to light questions of vital interest to the professional kinematographer in particular, and to the public in general.

"Will the advent of the amateur kinematographer result in detriment to the professional?"

"Will the home projector finally supplant the motion-picture theater?"

"Will the public gradually lose its interest in motion-pictures as a whole because of it becoming an art so accessible to anyone?"

To these three questions we give an emphatic negative answer.

The Kodak has not supplanted the professional photographer, but has spurred him on to greater achievements; and this is *progress*.

The kinema has not supplanted the legitimate theater, but has brought dramatic art into the most remote portions of the world, and its artistic and educational values to the humble as well as to the wealthy; and this is *progress*.

The radio does not stop the public from attending "en masse" concerts, conventions, religious meetings, lectures, sport-events, etc., but it has brought them home to the hundreds of thousands who have not been privileged actually to hear such manifestations of higher intellects and of public opinions; and this also is *progress*.

The advent of the amateur kinematographer is tending to increase interest in motion-pictures to the enjoyment of the amateur and to the benefit of the professional.

The kinematographer will profit from this advent because the problems he had to solve and is continually solving, his untiring efforts for the progress of his art, will be better known and understood by the public in general; hence, better appreciated and recognised.

Amateur kinematography is considered by many, *a new fad*. In reality it is more than a *fad;* it is an *institution* from which new industries are arising and will continue to arise, new talents will be created and will have the opportunity of expressing themselves; new ideas and ideals will be developed for the greater glory of that manifestation that is called *progress*.

The Amateur Cinema League is indefatigably fostering the forward march of amateur kinematography in all fields, scientific, artistic, commercial.

One of its latest communications forecasts the analysis and criticism of the work of professional kinematographers.

"So, whether a film be good or bad, as a whole, is not considered important. The place in the sun in these reviews is reserved for the erstwhile lowly cameraman, the cutters, and the hitherto largely ignored technicians; and yet its originators declare this unique procedure is not followed because of contrariness or from the desire to do something different, but because of a genuine demand for exactly this sort of reviewing on the part of its readers". This refers to the readers of *Amateur Movie Makers*, the organ of the League.

The professional kinematographer cannot but *welcome* this innovation and be grateful for criticism as well as praise, and look forward to this closer contact with the public as a channel through which will result betterment in the making of motion-pictures as a whole and a greater efficiency in enhancing their educational value.

Aside from the special personal and moral benefits that the professional kinematographer will derive, it is beyond question that the amateur kinematographer will *hold his own* in many fields of general interest.

The low cost of making amateur motion-pictures will permit the accumulation of a vast amount of documentary films, a great part of which are bound to enter the public domain.

A certain amateur is particularly interested in sports, another in aviation, another in some industry, another yet has a botanical propension, another a traveling instinct and so forth, and each one of these amateurs will make thousands of feet of real documentary pictures in all their details and with cognizance of cause and effects.

The world will know that such tremendously interesting material is available, or at least in existence; and although relegated to private libraries and collections, it will be sought and found, borrowed, rented or bought from the author with all data appertaining to it; and the time will come when these films will enter completely the public domain and become a thesaurus of invaluable information.

The creation of such a marvelous documentary collection, if made by professionals, would require such an investment of capital as to render it practically impossible.

This subject is so vast that it could be discussed *ad infinitum*. It requires very little stretch of the imagination to foresee the wonders that will be accomplished through amateur kinematography, wonders second to none, in this era of moral and practical achievements.

Editorial in *American Cinematographer*.

Random Practical Photographic Notes

PERRY D. FRAZER

Part I

SO often is the novice told that he cannot hold a camera steady in his hands for an exposure longer than one twenty-fifth of a second, that he may actually believe it. Of course, this fiction serves a purpose; for the average person is not thoroughgoing in camera-holding, nor in anything else to which he devotes little serious thought.

How long can you hold a camera sufficiently steady to expose a plate on a view, the nearest prominent object in which is forty feet distant? One-tenth of a second? Easily. One-fifth? Of course. One-half second? Well, yes, in certain positions. While employing bulb action? Possibly, with great care.

Understand me, you cannot do this when the nearest object is close to you, for this would show motion in any exposure longer than, say, one-tenth second.

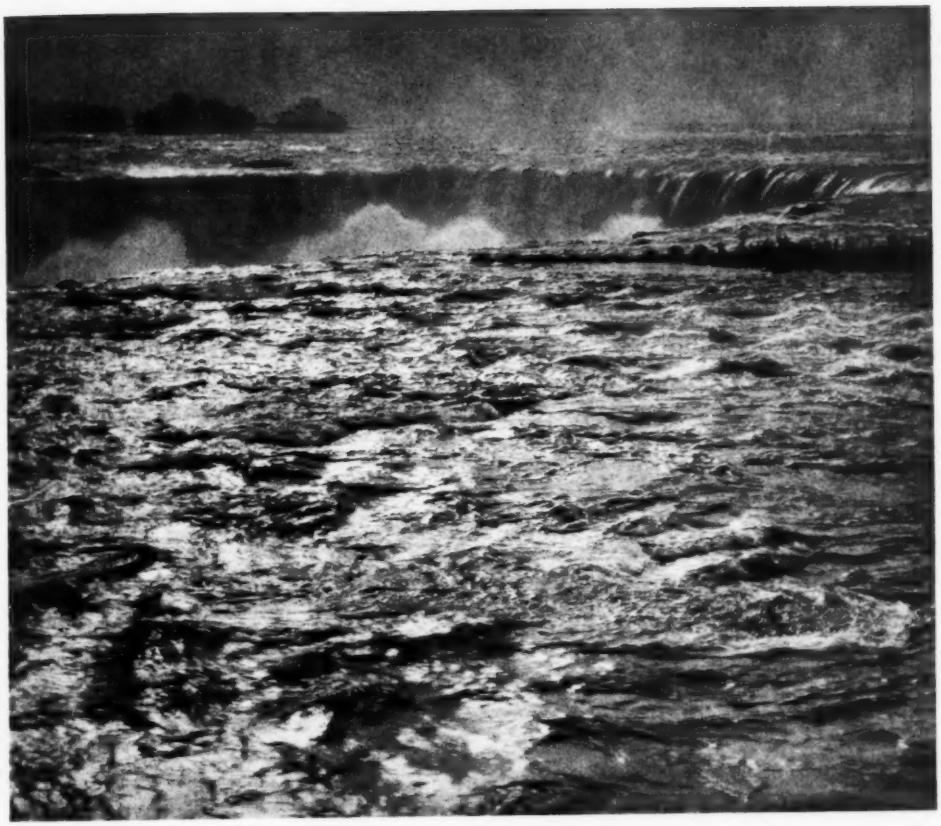
Just to ascertain how far you can go in an experiment of this sort, try a small camera with focusing-screen in place, held at eye-level in both hands, with elbows at sides. Use the shutter-lever, as it may be pressed more steadily than the plunger of a cable-release. Use index finger to manipulate the lever. Watch the groundglass closely. If it is marked with lines intersecting at the center, hold this cross on a prominent object and decide for yourself whether this mark wavers much during the exposure. Try one-tenth second, then one-fifth, one-half; with a bit of practice you may even use bulb-action. Sitting or kneeling is a better position than standing; but in standing, brace the feet, take a full breath, expel part of it, then hold it during the exposure. Try a couple of plates, after a bit of "dry" practice, and see whether you "called your shots" correctly.

Calling his shots is something instructors require every rifleman to do; that is, when he presses the trigger he must make mental note of the exact spot on the target covered by his front sight. If he calls it a low shot and the target-boy signals a high shot, the marksman is not "using his head", and he is told as much.

Rifle-shooting and tripping a camera shutter-lever are similar in some respects; and the timing is about the same. With the rifle, the front sight is never steady; but it wavers so little that the average rifleman can hold it on a mark two inches in diameter and twenty-five yards distant long enough to average seventy-five to eighty per cent. of hits on that mark; the expert may average ninety to ninety-six. Some years ago metallic peep-sights were largely replaced with telescopic sights, the magnification of which was six diameters. Today, eight- to twelve-power glasses are common with expert target-shooters. At first, it was thought these sights could not be successfully used in the standing position, in which the rifle is held free from any artificial support; but it was found that, although the magnifying-sights made errors in aiming clear to the shooter, he quickly adapted himself to the change, and found it an improvement. It is, then, logical to assume that, if one can with practice hold a magnifying rifle-sight on a small mark for a fraction of a second, with practice the average person may hold a camera sufficiently steady to make an occasional longish exposure, even with the bulb. The image on the groundglass is not magnified, as it is in the telescope; and the movement of the camera is slight. If anything, it is easier to hold a camera steady than a rifle; for the only rifle that may be held almost motionless, for say one-fifth of a second,—is one with a long, heavy barrel and weighing ten to fifteen pounds. With it, the travel of the front sight is slower and steadier than would be the case with a light, short barrel.

As another illustration, take binoculars, and these are held about as a camera is. With glasses of six power, one can hold fairly steady. I have a Zeiss prism-monocular glass of twelve power, and it is frequently used in the hands, free from other support; though I would not advise anyone to select a glass of more than six power for all-around use. With this monocular on a tripod, one can plainly see the hole made in a manilla paper target at two hundred yards by a service bullet, which is roughly .308″ in diameter; with good light, one can see these holes in the dead-black bullseye at that distance. (Now and then when one has fired a shot and is searching for it through his glass, he may see a fly or a wasp on the target, and may score it instead of his bullet-hole; then when the marker signals the shot correctly, he will look again for what he thought was the bullet-hole, to find it crawling off the paper!)

I would not say that one can hold a reflecting-camera in the hands as steadily as is possible with a folding camera, for the shutter mechanism



THE BRINK

L. H. LONGWELL

HONORABLE MENTION—LAKES, RIVERS AND BROOKS

of the former is not so delicate. Still, the slowest speed—one-tenth second—gives clear negatives to one accustomed to it. If one can lean against something and hold the camera close to the body, or kneel with camera on one knee, that is better; but news-photographers frequently are so placed that the camera must be held free, often pointing up or down. One of the most trying positions is high above one's head, as in a crowd at a fight or a fire; for then it is difficult to judge if the camera is level.

The expert rifleman gains skill in his "dry" practice—aiming an unloaded rifle at a small mark on a wall and "calling his shots" as he presses the trigger. The photographer can practice similarly, with good results.

Another thing that helps one, at times, is practicing celerity in getting into action with the camera. Every press-photographer knows the value of speed of this sort. Formerly I went about New York City with a press-photographer who was wonderfully efficient with a reflecting-camera. Seeing us with press-cameras, some roughneck often called, "Hey, mister; take my picture!" Just for fun, and for practice, my companion would open his camera, focus it, make an exposure of the fellow, and wave to him, all in an incredibly short time. While I might be thinking of doing the thing, he would have his picture and be changing to a fresh plate.

Street-Pictures

One who is fond of making street-pictures need not be told how often one is hampered and, at times, annoyed by persons who try to get into the picture. Why, on the Bowery one day I saw a fellow posing, as he thought, before a surveyor who was fussing with a transit! On one occasion I walked from Forty-second Street to the Battery, seeking interesting subjects, and time after time one person loomed up in my chosen field. He would drop behind me as I walked; but every time the camera was opened he would saunter ahead and pose or stare at me. Down on the East Side one has an easier time, though not always; and every effort must be made to work rapidly and try to avoid attracting a crowd.

A favorite pastime of mine is to ride up or down town on the rear seat of an open surface-car. There, one may have a reflecting-camera, open, on his knees, without attracting attention, and the posers will not hinder him. Watching the crowd headed in the same direction as the car one is on, many interesting subjects are offered. And these cars seldom move rapidly enough to bother one if his lens is worked at full opening, timed at one-fiftieth second or faster.

Automatic Shutter-Trips

Some persons seem to think that the possession of an automatic shutter-trip spells personal vanity; in fact, the makers suggest that you may, with it, get into the picture yourself. This is often its best feature; for in a family-group, Dad naturally is wanted. There are other times, however, when a device of this sort is very useful. There are ideal views that may be improved by placing a figure in the middle distance; and when one is alone, he knows just where to place himself to carry out his idea. He may be whittling a stick, securing a shoe-lace, picking flowers, pointing toward some distant object, or just sitting on a stump or stone, gazing toward the horizon. The shutter-trip is set, he takes his position, with abundant time, and the click of the shutter completes the arrangement.

Suppose one is making pictures for book or magazine illustrations, or for advertising matter. Usually there are accessories that must be shown; and no one is better qualified to show them in the desired way than the person writing the story. A companion may disturb one's plans by talking or distracting one's attention from the work in hand. I have made snowshoeing pictures by poking a stick in the snow, attaching the camera to it by using a ball-and-socket clamp, and after setting the trip, walking off to the place arranged for. Shooting, camping, canoeing and fishing-pictures may be made in this way. When one is in camp, with clothing and equipment handy, he may make a series of pictures, each with appropriate settings and properties; and in most of them he may pose in such a way that his features need not be prominently shown. Sometimes, pictures of this sort are employed merely as suggestions for the use of an artist in making magazine-covers, line-drawings, head- and tail-pieces, and so on.

There are several automatic shutter-trips on the market, including one or two that are actuated by series of gears, and are therefore absolutely uniform in action. Fully wound, one of these gives the operator about forty seconds to get into position before it trips the shutter.

The trip I have, was designed for use with a cable-release; but as I also use it quite often on a reflecting-camera, a slight alteration was necessary. A tiny hole was drilled in the back of the trip, hole tapped, and a bit of wire threaded at each end, then bent like a letter L, one arm very short. For carrying in the pocket, this short end is screwed into the trip, so that the long end lies flat against the back plate. For use on the reflecting-camera, the long end is screwed into back, and the short end projects under body of camera; while the trip hangs alongside, its

pull-down hook hanging on the shutter release. In this position it exerts a positive pull until the shutter-lever is forced far enough down to release the shutter; then one must partly wind the mechanism to make it let go.

Protection for Extra Plateholders

If one goes for a short walk and does not wish to take a complete outfit along, an extra film-magazine or a couple of plateholders may be carried in a paper-box of convenient size, open at the top only, and without a cover. The box may be strengthened by covering it with the tough black paper in which plates are packed. Pocket lint and dust are avoided and magazine or holders protected from accidental injury.

A Roomy Carrying-Case

Take the conventional case, partitioned to accommodate a folding camera at one end and several plateholders at the other end; a very neat arrangement, but with its limitations. At army stores one may purchase for a small sum a bag that cannot be surpassed for utility. This is made from heavy olive-drab duck, has two large and one small compartments, flap, adjustable shoulder-strap, strap, and buckle. It is sufficiently roomy for camera and holders in one large pocket; luncheon, canteen, etc., in another; and small articles in the third pocket, all separated for convenience and cleanliness. While not large enough to be clumsy, it will accommodate almost any outfit of 5 x 7 or smaller size—even a folded tripod, if its members are short. The carrying-strap is long enough to swing the bag on one's back, if desired. The woods trick of making a back-pack of a bag intended to be carried over the shoulder is like this: First you thrust head and arms through strap, bag resting on spine; then thrust head through strap again, lift bag and let strap rest on the place where a collar-button might be. This places the bag in the middle of one's back and leaves arms free—a makeshift way to ease the load from one shoulder, occasionally, but not recommended for a long hike with a heavy load. For real loads the regulation-pack is better, as with it the weight rests below the waistline. Our North Woods men could give Uncle Sam real advice on the postal regulation which makes mail carriers stoop. How much easier their task would be if the pouches they lug were equipped with two straps instead of one, since they could walk upright, not humped over to windward. Often they walk far before they commence to deliver our mail. Delivery begun, the bag could be carried over one shoulder, for convenience. (No patent applied for.)

Container for Accessories

When one is on a hike, the fewer articles he has in his pockets the more comfortable will he be. If he carries a pack, all articles taken along may be put in it; if a camera-case, the same argument applies. How then to carry small delicate things like diffusing and color-screens? Try a paper-box, preferably equal in dimensions to a plateholder or filmpack-adapter. Alter the box in this wise: Cut the cover in half, remove the side pieces from one half, and with gummed strip paper attach top permanently to box. Make a hinged cover of the other half by pasting a narrow strip of linen over the joint, then cover linen with gummed paper. This renders the lower half of box dust-proof. If carried in a pocket, the box will stay closed; it will always be handy there or in the camera-case, and there is no separate cover to bother with. A box equal in thickness to a filmpack-adapter will accommodate two color-screens, a magnifying-glass, a folding lens-shade, small notebook and pencil, exposure-meter, and other small articles.

Lens-Shades

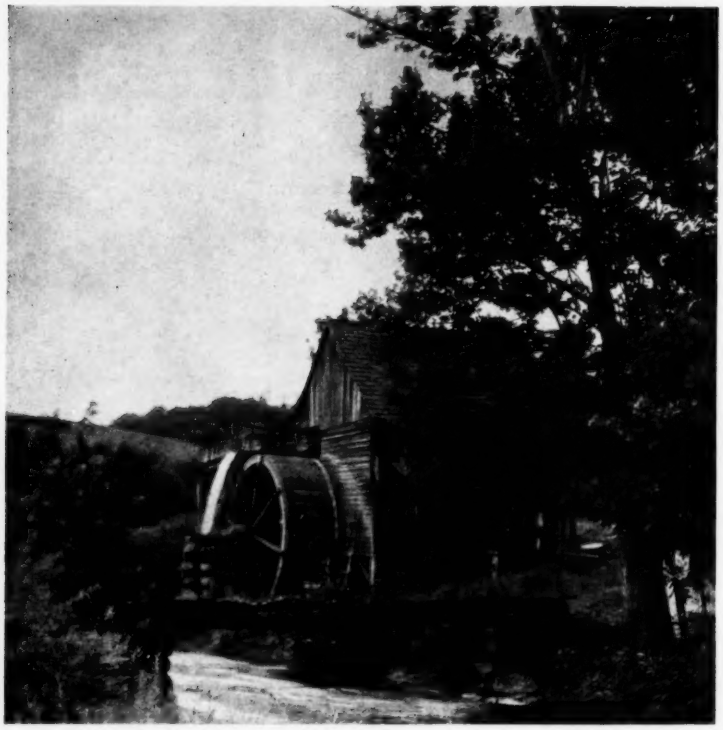
How often does the average amateur use a lens-shade, particularly where one should be employed, on the streets, over water, toward the sun, and in many places where there is strong reflected light? Very seldom, I should say; still, many pictures may be improved by using a shade of some kind.

A lens-shade need not be elaborate. A piece of cloth such as binders use in covering books will serve. It should be quite stiff, and will be more efficient if it is of some glazed fabric that will not pick up dust when carried in a pocket. Glue the ends together and make a tube of it, just large enough to slip over the lens loosely; then fold it flat and put a weight on it until the glue is dry, when it will be no larger than an envelope for carrying in a pocket.

For a large lens, a three-inch section of rubber from an old inner tube of a flivver is handy. Dust will not adhere to it, it is clean, and just rigid enough to serve the purpose mentioned. If the camera-box has sufficient depth, it may be closed with the rubber-shade in place on the lens.

A Slide-Holder

A plateholder or magazine-slide is a nuisance when one is on a hike and is not wearing a coat. If one puts the slide in a hip pocket, he is likely to lean against something and crush the slide. On nearly every reflecting-camera there is a clear space on the right-hand side equal to the size of



YE OLDE MILL — GEORGE W. DAVIS

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the magazine-slide. Lay the slide on this space, then cut a strip of thin aluminum one-half inch wide and a little longer than width of slide, attach strip to camera with two tiny brass screws, and forget the slide. The various knobs will protect it until you want to use it again in removing the magazine. Blacken the strip, if preferred, with amyl acetate and lampblack. This resists wear for a long time.

Focusing-Magnifier

Working with view-camera and tripod, employing a magnifying glass is difficult, awkward. In my shop I am often compelled to work under a microscope; and as both hands are occupied, I employ various makeshifts to hold the glass. A jeweler's loupe is often used, but this compels me to remove my spectacles; and as the shop is crammed with delicate machines that require constant watching, seeing with both eyes is important. One day I picked up a little reading-glass that has proved useful in the shop, and in photography, too. Its power is about four diameters, width two inches, mounted in celluloid, with loop-handle, hinged. By bending this handle in hot water, I spread the loop slightly. The hinge is stiff enough to hold the glass at any angle, so I set my teeth on the loop, tilt the glass at the desired angle, and it serves admirably, leaving both hands free. It is used in this way for critical focusing on the ground-glass of the view-camera. All opticians stock glasses of this sort.

Small Weights

In making up developing-solutions, an assortment of small weights is nice to have. Whether one's scales are of the good old-fashioned two-pan variety, or the newer ones with beam and sliding weight (for grains), small marked weights save time.

A friendly druggist or jeweler will loan a set of accurate weights for an evening, if you have none. All you need in making a complete set is scissors, black varnish, brush, and some thin aluminum scraps. Place a one-grain weight on

one pan of the scales, snip off a bit of scrap and try it on the opposite pan, trim until perfect, mark number on each side, and make another weight; then a pair of two-grain weights, and so on up to ten, following with 15, 20, 25, 50, 100, if desired. They will all prove useful.

If the black varnish used is thick, after it has dried test the weights again, and trim if they need it. A large figure on each side may add a trifle to a small weight.

Reflecting-Cameras

It would be interesting to learn who was the first amateur in America to use a reflecting camera. It was in 1898 that I saw one for the first time. I was then very keen on cameras, went about the supply stores, obtained all data available, and studied photography diligently, so that if anything new escaped my attention, it was not prominently exhibited. On May 21, 1898, one of my friends was with me on a camping-trip. In an old canoeing logbook I find mention of several unusual things that week-end. One was that a young man was bitten by a large copperhead snake nearby, and was taken from our camp to a hospital; I was trying cut-films; and it was then that I first saw a reflecting-camera. I still have a couple of prints showing my friend making pictures of some canoeists with the reflecting-camera he had just completed.

That camera was shaped like a fifty-cigar box, groundglass on top, no hood, Darlot lens in a panel near one end. When a lever was pressed, the mirror flew up and the shutter dropped with a bang that startled me when I tried the camera. It was adapted to 4 x 5 plates.

Very shortly afterward I saw, in the London *Field*, an illustrated advertisement of a reflecting-camera. That caused me to speculate on whether my friend got his idea from that advertisement, or, as often occurs, two men happened to work out similar devices at the same time.

Just when it was that reflecting-cameras were first marketed in New York City I do not know; but I saw none prior to May, 1898. That, of course, proves nothing. It was in the Folmer & Schwing place on Canal Street that I first saw one offered for sale. This was one of the Graflex line. My first one was a 3A. When the 2¼ x 3¼ Graflex was brought out, I bought one; but did not keep it long, as the 3¼ x 4¼ gave better service; and I still prefer one of that size, but with long bellows.

Folmer long ago tried to make foolproof reflecting-cameras; that is, to fix a lens in a camera so that it could not be removed and another one put in. I had one of these, and it was "foolproof" for about an hour; then Adam Archinal removed the lens and installed one that suited me better. Some amateurs may be dyed-in-the-wool cranks, but each one swears by a favorite lens, and is not happy without it; so why try to tell him what lens to use?

Cut Films *vs.* Plates

In the January, 1927, issue of Photo-Era Magazine I commented on the keeping qualities of plates and films. An inspection of hundreds of negatives of both sorts in my collection, dating back to 1896, showed that the film negatives had deteriorated less than the plates. Among these negatives are cut-films (1898), pack-films, and plates of various makes, sizes and emulsions. In the May, 1927, issue, one of your correspondents takes exception to a statement of mine that I prefer films to plates, and seems to think no serious worker can get along with films alone, film-users being of the frivolous, snapping variety.

One hot day it occurred to me that the outfit I was carrying on a hike was very heavy, probably fifty or sixty pounds; and on returning home I weighed it. The total was about twenty-four pounds. This included camera, tripod, two cut-film magazines, two lenses, filters, prism-monocular glass, target-revolver, holster and cartridge-belt—carried on hikes in the mountains, where rattlers and copperheads may be encountered—canteen, lunch, two waterproof sheets, pocket axe—all in a rucksack.

Twenty-four pounds' weight is not much to carry; but if your correspondent were to lug that weight all day over the hills I frequent, averaging fifteen to twenty miles, he would agree with me that, in the matter of weight alone, cut-films are a great convenience, and that even a twenty-four-pound pack seems heavy toward evening. With portrait-films in one magazine and orthochromatic or panchromatic films in the other one, and a couple of filters, almost anything in the line of outdoor-photography may be covered.

The waterproof sheets mentioned above were made from Egyptian cotton—often called airplane-cloth—and are 4 x 6 feet in size, but very light in weight. The waterproofing was paraffin dissolved in turpentine, not gasoline as in the usual formula. If one is caught in a shower, he can spread one sheet over his outfit and use the other one as a poncho. One sheet may serve as a focusing-cloth, as protection when one sits down at lunchtime in snow or on wet ground, or as a windbreak or background in flower-photography. The color, medium green, helps in the last-named work.

(*To be continued*)

Photography in School and College

ARTHUR L. MARBLE

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Chapter VII—Elements of Pictorial Composition

WHAT is composition? If you were to ask a writer, he might tell you that it is the art of putting words, phrases, sentences, and paragraphs together to form a complete whole. If you were to ask a musician, he might tell you that it is the art of putting related sounds together to produce harmony. Both definitions would be right. But when the technical terms of the artists are reduced to the simplest common language, we shall find that they all have the same definition for composition, namely, that it is the arrangement of parts in a pleasing way.

The very moment that the pictorialist asks himself such questions as "How much shall I include in this view?" or "In what portion of the picture-space shall these objects appear?" he is employing that most useful tool of the artist—pictorial composition.

It is the office of composition, not to make the picture "pretty", nor to make the audience find in a photograph clever designs, the presence of which its creator might not suspect; but to make it easy for the beholder (1) to understand the message intended, and (2) to enjoy that message when it is understood. Pictorial composition, then, is fundamental; without it we should have naught but disorder and chaos. In photography, as in all the arts, it is necessary not only to have something to say, but to know how to say it. Like a good salesman, composition should call attention to the wares it has for sale, and not excite wonder at an eloquence of speech or dexterity of manner.

Whenever a person views a picture, he is the guest of the pictorialist who created it. If, on entering a house of entertainment, you were given a glad welcome that was too glad to be genuine; if the conversation of your host was high-sounding, lacking in thought, and smacking of insincerity; and, if you were, at length, given a hasty "good-bye" without having had a little lingering farewell at the door, the chances are that you would not be eager to return soon to that place, though your entertainment while there might have been brilliant.

So it is with pictures. A composition that gives the eye a flashy entrance, a sensational amusement, and a hasty exit may be fascinating for the moment; but it is soon forgotten, and we return to those compositions that receive the eye with a quiet heartfelt welcome, that conduct us slowly over the threshold, inviting our eyes to the objects of principal interest, yet giving us leave to stop and to reflect on the form and beauty of features that to us are most interesting. Then, when we have been delighted to the full with this quiet entertainment, we leave the picture with the conscious feeling that the farewell was truly an invitation to call again.

But, properly speaking, the great art of composition cannot be taught. John Ruskin knew whereof he was speaking when he wrote: "It is impossible to give rules which will enable you to compose. You might much more easily receive rules to enable you to be witty. If it were possible to compose melody by rule, Mozart and Cimarosa need not have been born; if it were possible to compose pictures by rule, Titian and Veronese would be ordinary men". The essence of composition lies in the fact of its being unteachable, in its being the operation of a mind of range and power. Ruskin tells us that not more than one man in a thousand has the gift of composition in any degree, and that the heights of excellence are not attained oftener than "three or four times in a century".

If composition cannot be taught, is the study of it in vain? Not by any means! The truth is that there is perhaps no study that is productive of richer returns. By such a study, the student will discover that though there are no hard-and-fast rules in art, there are certain principles of good taste that are commonly found in all good work. He will discover that successful pictures are not fortuitous products of chance, nor of inspiration alone, but of intelligent and conscious planning. No one who has been inspired by the masterpieces of composition can be satisfied with any work that does not aim at the understanding and enjoyment of the audience.

In order to make the message of the pictorialist easily understood, every well-composed picture has what is called a central point of interest, or a principal object. This may consist of a single element, or of a group of elements. So long as the main theme of the picture is definitely identified with it; so long as there is no question

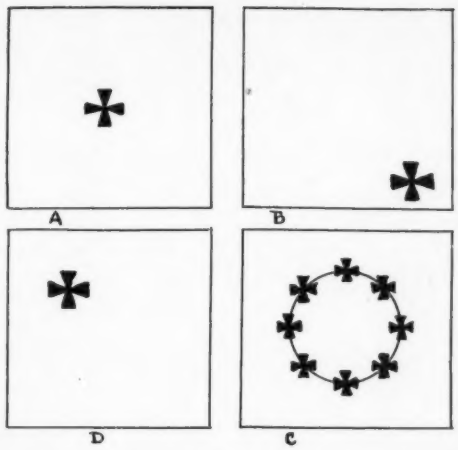


FIGURE 1 PLACEMENT OF PRINCIPAL OBJECTS
ARTHUR L. MARBLE

about its being the foundation of the picture-structure, and so long as all things aid the theme or message it carries, the picture is a unified whole.

It is evidently of prime importance that the principal object be well placed within the frame-lines of the picture. In briefly studying this matter, we shall consider the proper disposal of one element; for it is plain that after a single object is correctly placed, the task of arranging others is not so difficult. Yet to say where a skilled pictorialist would place a component within frame-lines would be hazardous, for artists pride themselves on their originality and try to place objects in different positions from those of other workers before them. So it would be easier to predict where an artist would be unlikely to place a unit than it would be to venture a guess as to where he might place it. We know, for instance, that there are very few pictorialists who would put the chief figure in the middle of the picture-area; for such a placement, unless it were well justified, would be considered poor taste. True enough, an untrained eye might find in a central placement a symmetry that gives him a certain satisfaction, and, indeed, in a technical sense the result would be well balanced; but there are very good reasons why the center is one of the least desirable, or "weakest", positions within the frame. It is stiff, mechanical, and lacking in variety. Such placement is common to the man-who-is-afraid-of-his-camera, and the average maker of snapshots uses scarcely any other form of composition. Furthermore, there are certain professional motion-picture camera-men who are addicted to the same practice, when they ought to be more original. Study A, Figure 1, for a moment. If you are a person of artistic taste, it will not take you long to see that the placement is monotonous in the extreme.

Let us change the position to a point near the frame lines. (B, Figure 1.) This too, we find, is a very "weak" position. True, it is not so monotonous as A, but the interest being concentrated in one corner leaves a large area of empty space; hence the position can hardly be called superior to the first one. We may be quite sure that pictorialists try to avoid such extremes as we find in A and B of Figure 1. An examination of successful examples of graphic art reveals the fact that most artists place their principal objects at or near the points marked by crosses in Figure C. Of these regions, the point indicated by the cross in D seems to be preferred; in fact, a large number of students are agreed that this is the most advantageous of the possible positions in a picture-space.

Before we go further we should learn something about balance, a principle spoken of much in all art, and a principle widely misunderstood. Balance cannot be appreciated without being felt. Balance is a quiet presence that immediately gives the viewer of a picture a sensation that all is ordered, all is well arranged. In A, Figure 2, we have a pen-sketch of Homer Martin's "View on the Seine". Everything seems right; we are given to feel that the painter has disposed his material with a careful regard to balance, though we may not know a definition of the term. One regards the group of trees as the chief object of interest. All else seems to contribute to the main theme; the very reflections seem to herald the presence of the trees. The hill and the foreground at the left, however, do not appear particularly important. Yet, if removed as in B, Figure 2, we immediately sense a loss. Indeed, this hillside and dark-toned foreground are essential parts of the composition, as they serve to offset the tree-mass to the right. When the counterpoise is gone, the whole is left unbalanced.

We have already seen (A, Figure 1) that balance does not necessarily mean that both sides of a picture need to be arranged exactly alike, for such a thing is extremely monotonous. Balance does imply that the various parts should be harmoniously related and fitted to each other. What pictorialists strive to do is to make all parts of their pictures, top, bottom, right, and left, equally interesting, granting, of course, that there is a point of supreme interest. B, Figure 2, is unbalanced, because the right side is

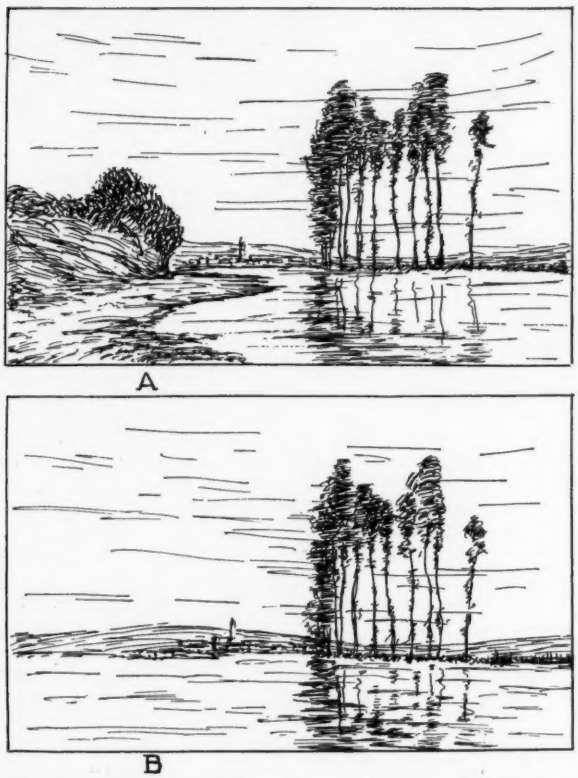


FIGURE 2 A STUDY IN BALANCE ARTHUR L. MARBLE

interesting, but the left side is comparatively unattractive. All the weight, so to speak, is on one side.

"The View on the Seine" is an example of what is known as the steelyard principle of balance. A steelyard (Figure 3) is a lever-balance consisting of a long and a short arm. A body (E) to be weighed is suspended from the short arm (D). To offset this, a long arm (B) is provided. This is graduated, and a counterpoise (A) may be moved along the graduated arm until there is perfect balance, when the correct weight is indicated. When we understand the steelyard-balance, it is easy to see a similarity between it and the much-used form of composition illustrated in Homer Martin's painting. Accordingly, the vertical beam (C) of the steelyard is similar to the vertical center of the first sketch in Figure 2. The object to be weighed or balanced (E) may be likened to the group of trees. The long beam (B) is comparable to the space between the object requiring balance and the counterpoise, and the equalising force or balancing weight (A) is equivalent to the hillside and foreground, extending to the very edges of the picture.

FIGURE 3 A STEELYARD ARTHUR L. MARBLE

Thus we recognise that in the steelyard type of balance a large or important object near the center may be balanced by a smaller or less important object, provided it is at a greater distance from the pictorial center of gravity.

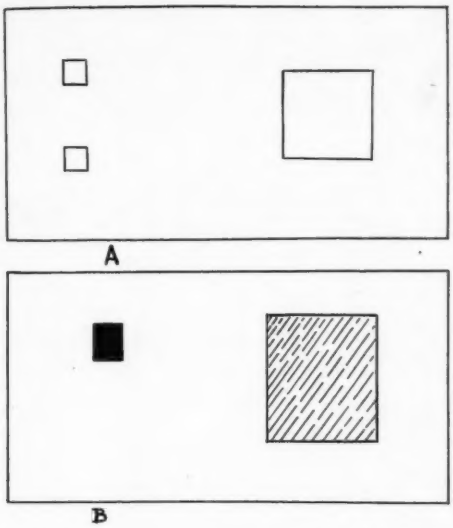


FIGURE 4 SINGLE TYPES OF BALANCE
ARTHUR L. MARBLE

Now, it is plain that in using this method, the problem of balance does not become so much a matter of asking, "How many inches away from the chief element should the counterpoise be placed?" but rather, "Where do my feeling and judgment tell me is the proper position for correct balance?" Discriminating taste in such matters is attained only through years of study and experience. Acquaintance with the best works of the ancient and modern graphic artists will develop a feeling for this and other kinds of balance, as nothing else will do. It is surprising to note how many of the great paintings are composed on the steelyard-principle. "The Gleaners", by Millet, and "Dance of the Nymphs", by Corot, are classic examples of its application to figures.

Balance, then, is not so much a matter of placing side by side objects or areas of identical size or importance, as it is of distributing interest. Accordingly, a single large component on one side of the picture-space may be balanced by two smaller components (A, Figure 4); or a large gray element may offset a black one half as large, all because each side is made equally attractive.

Due to the fact that lines and tones are the chief tools of the photographer in building compositions, they deserve some attention at this time. As lines form the framework or basis of all pleasing arrangement, we shall give them first consideration at this time.

Different lines are of course expressive of different ideas and emotions. Horizontal lines are restful and filled with repose; but unless broken by other lines, they have a tendency to become monotonous. Curved lines are filled with grace, beauty, rhythm. One reason why the human figure is so much admired by artists is that it abounds in the curve called by Hogarth "the line of beauty". A zig-zag line denotes more rapid movement than a curved line. Vertical lines catch the attention at once, and are stately, imposing, and full of majesty. It is well, in composition, to have the leading lines point to the principal object rather than away from it.

A consideration of the shape of the frame into which the composition is to be inserted again calls up the question of lines. It may be said that dominantly horizontal and vertical lines in a frame have an effect similar to like lines in the picture proper. The full import of this fact has not been appreciated by photographers in the past. Virtually the only thought that has been given to this subject by many amateurs is, "Can my subject be best included in a horizontal view or a vertical one?"

Such reasoning may be all right when the sole object is to make a record; but, artistically, it will not take us very far. Let us consider the fact that a vertical frame, like any other vertical line, expresses such things as height, or majesty, or grandeur; and a horizontal frame suggests peace, quiet, and repose. In photographing architecture, for instance, the pictorialist should not only question himself as to what kind of frame the composition will fit best, but ask, "Will a horizontal or a vertical frame best express the character of this edifice and my feelings and impressions with regard to it?"

At this moment, I look out of my window, which forms a natural framework for the branches of a tree that reaches across the area, forming an agreeable composition. (A, Figure 5.) The arrangement is pleasing because (1) the predominant lines of the picture frame are in harmony with the horizontal sweep of the branches, so unruffled on this quiet day; (2) these frame-lines are in accord with feelings and emotions aroused as I behold the scene. Now, the condition would have been very different had I viewed the same subject through a vertical window-frame. In such circumstances the leading lines of the picture would not have room for full expression, and the vigorous vertical frame would have defeated the reposeful message carried by the branches, making the result chaotic and disorderly. But in the event that the pictorialist desired to convey ideas of dis-

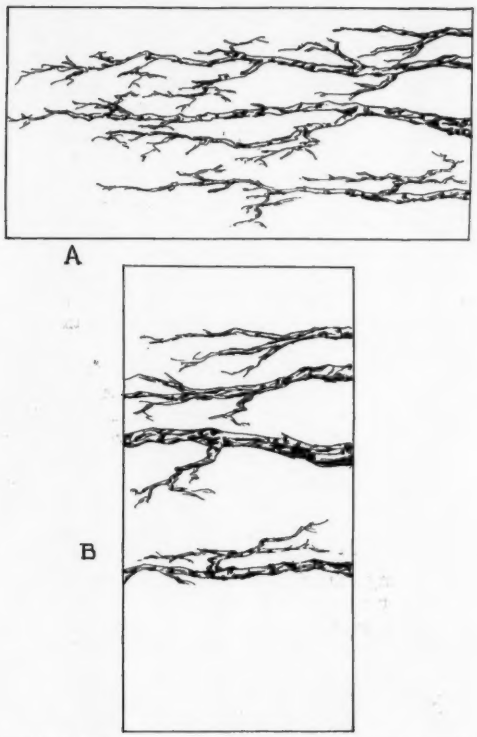


FIGURE 5 AFFECT OF FRAME LINES
ARTHUR L. MARBLE

ruption or lack of harmony in his subject, he might use to advantage all the means available, including discordant frame-lines, to carry out the main theme.

Unless lines in the background of compositions are watched carefully, unpleasant surprises will appear in the finished pictures. Thus we might have such ludicrous occurrences as a tree appearing to spring from the hat of a man in the foreground. Lines of objects that are supposed to be out of focus might still be sharp enough to distract the attention and ruin the picture. Horizon-lines should not be neglected. Needless to say, it is poor taste to have the horizon bisect the picture. A distance about one-third from the top or bottom of the frame is a tasteful position for a horizon-line.

If lines were the only means of recording the photographic message, work of a pictorialist would bear greater resemblance to a skeleton outline than to a living form clothed in flesh and blood. If one may say that lines form the framework of composition, it is equally true that the quality of the recorded light or *tone* clothes those lines and touches the whole with the spark of life.

The statement that photography cannot record color, and works solely in a monochrome medium, may lead one to regard the photographic expression of color-values as very restricted indeed. To a certain extent it may be limited, but nothing is more certain that no one has yet been able to exhaust its possibilities. Efficient color-photography will in all probability be accomplished long before men have half exploited the potentialities of monochrome.

Photographic expression of tone has a far greater latitude than most people imagine. To gain some idea of "black and white" as a possibility, we shall quote from Vachel Lindsay's "Art of the Motion Picture": "Some people do not consider that photographic black, white, and gray are color. But here, for instance, are seven colors which the imagists might use: (1) The

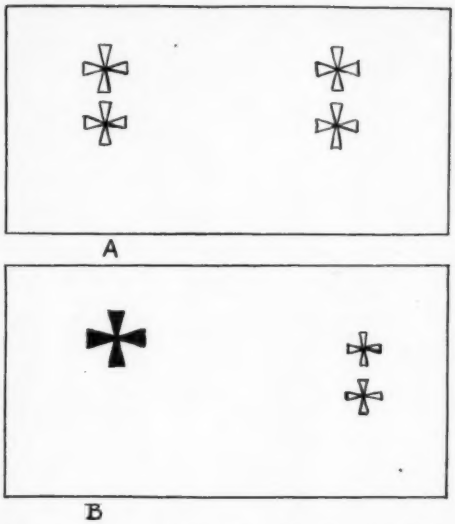


FIGURE 6 EMPHASIS AND SUBORDINATION
ARTHUR L. MARBLE

whiteness of swans in the light. (2) The whiteness of swans in a gentle shadow. (3) The color of a sunburned man in the light. (4) His color in a gentle shadow. (5) His color in a deeper shadow. (6) The blackness of black velvet in the light. (7) The blackness of black velvet in a deep shadow. And to use these colors with definite steps from one to the other does not militate against an artistic mystery of edge and softness in the flow of line."

With the understanding that tone in graphic art refers to the degree or graduation of color, light, or shade, the related terms are readily explained. When the dominant tonal complexion of a picture is light, the whole is classed as being in a high key; when the darker shades predominate, it is called a low key. Though the chief object be well placed, the various parts balance perfectly, and the lines and tones be harmoniously effective, a picture cannot be easily understood and thoroughly enjoyed without the qualities of emphasis and subordination. In A, Figure 6, the theoretical placement of the elements is good; the balance, though admittedly stiff, is passable. Yet the composition is a total failure. Why? Because there is no attention paid to emphasis and subordination. There is nothing for the eye to rest on; if one of the crosses is of chief importance, there is no way of detecting it. The result is dull and uninteresting. In B, Figure 6, there is a noticeable improvement. We now have one main element emphasised and two minor ones subordinated. In this case the large cross is given prominence, by size, position, and contrasting tone. Pictures are often given emphasis by a combination of these and other methods. In certain cases, increased size alone, for instance, may be emphatic.

Although anything unusual serves as a point of emphasis in composition, there is nothing that will draw and hold the attention to a particular point like contrast, *provided it is not carried to excess*. In his "Elements of Drawing," John Ruskin sums up the law of contrast in these words:

"Of course, the character of everything is best manifested by contrast. Rest can only be enjoyed after labor; sound, to be heard clearly, must rise out of silence; light is exhibited by darkness, darkness by light; and so on in all things. Now in art, every color has an opponent color, which, if brought near it, will relieve it more completely than any other; so, also, every form and line may be made more striking to the eye by an opponent form or line near it; a curved line is set off by a straight one, a massy form by a slight one, and so on; and in all good work, nearly double the value which any given color or form would have, uncombined, is given to each by contrast."

(To be continued)

Cutting Down Waste

J. E. BULLARD

IF the average camera-user would keep an accurate record of all he pays for materials and divide this cost by the number of passably good pictures he obtains, he would be surprised to learn how much each picture is costing him. In a good many cases the actual cost is greater than it would have been had a professional photographer been employed to make the pictures.

Such high cost is due to carelessness and to waste. It is also due partly to a state of mind.

Two members of a camera club were talking to each other. One told of a recent trip he had made, during which he had made nine exposures and obtained seven passably good negatives. He had sold a print of each of six of these negatives for three dollars each and expected to sell a print of the seventh negative. One negative he knew he was wasting when he made the exposure; but it was not possible to wait till the light was right, and he wanted as good a record as he could get of the scene. The other wasted negative was a duplicate of one of the good scenes. He was speaking in an apologetic manner for wasting two negatives out of nine.

"But that is very good, indeed," broke in the other member. "I usually make more exposures than that to get as many good negatives. I think you did very well, indeed."

The difference between these two men is that one makes pictures with no thought of selling them. Accordingly, he does not figure the cost. The other rarely ever makes a picture unless he has in mind a market in which prints of it can be sold. Accordingly he not only makes the kind of pictures he can sell, but endeavors to waste no material; because any waste reduces the net profit and may even make the cost greater than the price obtained.

There is a great difference between the states of mind of these two camera-users. As a matter of fact, there seems to be a more careless attitude toward waste on the part of amateur photographers than there is in the case of any other hobby a person takes up.

When a person begins to collect stamps or coins, he does not spend money for a lot of stamps or coins that he merely throws into the waste-basket. He spends his money only for those things he can add to his collection or which he believes he can sell at a higher price than the one he pays.

When a person begins using a camera, however, he is inclined to snap at everything without giving forethought to the final result; and consequently he puts more money into the waste-basket than he does into his album. Too many people seem to think the sun does all the work; and it can be relied upon to give good results whether or not the camera-snapper uses his head or not.

It is true that a certain amount of practice is needed to enable one to know in advance the results he can expect under any given conditions. It is also true that if one will give serious study to making photographs, he will be able in less time than he may believe possible to conserve his film and plates by using them only when he is sure he is going to get the results he desires.

When a person goes fishing, he first seeks a place where he feels certain there are fish. He then employs the bait he hopes will prove the most enticing, and he displays good judgment in the selection of this bait. He is likely to ask someone in whose judgment he has confidence, what kind of bait will prove best. He fishes at that spot till he either catches fish or is satisfied there is no chance of getting any. He doesn't just throw his line around promiscuously, giving the fish no chance to take the bait and then feel disappointed because he has caught nothing.

When a person starts on a hunting-trip, he doesn't start shooting as soon as he leaves the house and keep on wasting his ammunition throughout the trip. He first seeks the game he is after. When he sees what he is seeking, he takes careful aim; and if he is a good shot, he brings it down. He aims at what he wants to get. But, first of all, he knows definitely what he wants to get.

A lot of the waste in photography is due to the fact that so many people who buy cameras don't know what they want to get with those cameras. As they don't know what they want to get, it naturally follows that they rarely get anything that is worth while.

Photography is so simple that there is no reason that every exposure made, except in the case of the more difficult subjects, should not give at least a fairly satisfactory picture. In actual practice, however, many more exposures spoil film than produce a picture.

This is sometimes due to the fact that the equipment and the material used is so inexpensive. As it doesn't cost much, a lot of the material is used. Sometimes, however, a person with

SUMMER-TRANQUILITY JOHN SKARA
HONORABLE MENTION—LAKES, RIVERS AND BROOKS

very expensive equipment expects that equipment to supply the brains required in making pictures. This type of person is frequently the one who begins with cheap equipment, gets poor results with it, and keeps on buying more and more expensive equipment because he thinks it is the equipment rather than himself that is at fault.

The real trouble, of course, is that too little thought is taken before making the exposure. As a result, many exposures just miss being good pictures with a market-value.

Some years ago a woman snapped a boy and dog. As it happened the expressions on both the boy's and the dog's face were admirable. It had the making of an excellent picture. The trouble was that the woman had not thought of stepping back far enough so that the whole of the boy would be in the picture; and this lack of thought prevented the sale of any prints from that negative to the maker's advantage.

The market-value of the prints produced is stressed here more than the artistic value, for the reason that the value of any picture as a picture is after all measured to a marked degree by what someone will pay for a print. It matters not whether the picture is a work of art or just a record of an event or scene, its market-value is a pretty sure measure of its real value. There may be exceptions; but the camera-user who is never able to produce a picture he can sell may rest assured he has not mastered the art of photography to the degree he should.

Selling just a few prints inspires one with a photographic confidence he might never have acquired otherwise. It is likely to make him a much better photographer than he ever would have become had he not made the sales.

Above all, it generally leads one to be more careful about wasting material. Suppose one is using a five by seven camera and paying ten cents each for the plates of cut-films used in it.

If every negative he uses produces a picture he can sell, then two or three dollars for a print means a very good net profit, provided he wastes no paper and chemicals. However, if he has to make a dozen exposures to get one salable picture, he has spent a dollar and twenty cents on negatives alone, not counting the cost of developing. When the time he has given to the making of the pictures is added to the cost of developing and finishing, there is no net profit left. What money he receives for prints has gone into the waste-basket before he received it.

If he does any cost-figuring at all, he soon begins to figure how he can get a good negative every time he makes an exposure. He studies his light carefully to make sure it will give the results in the picture he desires; and if the light is not right, he goes away and comes back again when it is. He loses only his time and not money as well. He studies the composition of the subject and makes sure that he gets enough on the negative, for it is easier by far to trim down the picture than to add something that is entirely outside the scene.

Always with him he has an exposure-meter he has learned to use, and which his experience has proved to him is reliable. It does not matter so much the type and kind of meter used as it does how familiar one has become with the meter and how accurate the results he is able to obtain through its use. One person will get along nicely with an inexpensive meter. Another finds exposure-tables satisfactory. Another finds the most expensive type of meter fits his needs best. The point is that one should give serious thought to the method he is going to use to determine the exposure he is to give, and then master that method. Using one method for a time and then switching to another method because someone else has obtained good results from that method is likely to prove worse than useless. No method is used long enough to be mastered; and, in the end, the camera-user would have been just as well off had he depended upon his unaided eye alone. In fact, he might have been better off. After one has had a long enough experience, he usually gets the feel of light. It becomes second nature to know the exposure to give. Reaching this stage, however, is pretty sure to cost a lot of money in material if some other method is not relied upon to determine the exposures that should be given.

Most waste of photographic material is due to lack of thought. It is likely that if the greatest wasters gave more thought to what they are doing, they would not only get very much better results, but, because of these results, would actually use more material. They could afford to use more material because at least part of it could be paid for with the money received for prints sold. Wasting photographic material any more than is absolutely necessary is not only a waste of money, but only too often wasted opportunity as well.

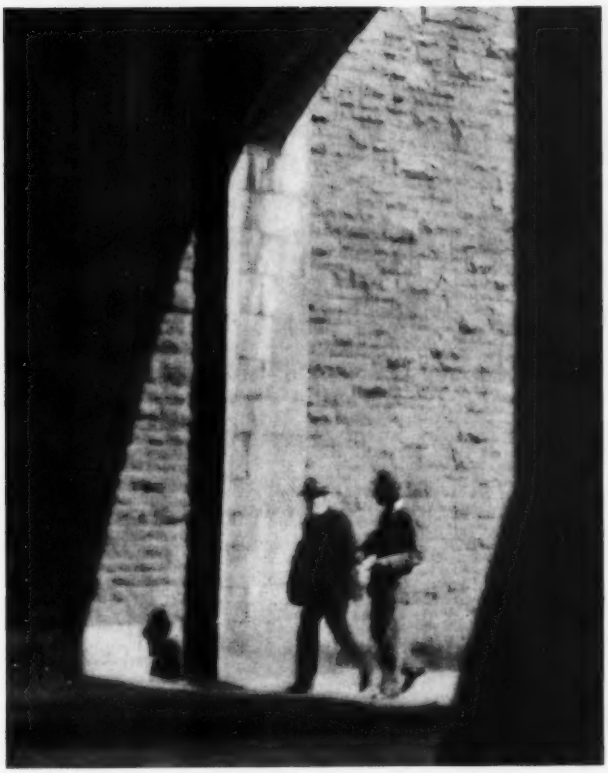
Focusing Simplified

E. L. HOOPER

WHEN the average user of a film-camera focuses his camera for a distance of ten, thirty or fifty feet, does he know just how much of the picture will be in focus and how much out of focus? Does he realise how much he can change the depth of focus by varying the stop used? When he wishes to make a photograph of a particular subject, does he know how much of an error he may make in estimating the distance to it, and still have it in focus? Even if he does use a range-finder and measures the distance to some prominent part of his subject, does he still know how far in front of or behind it the limits of sharp focus extend? If he does not possess a range-finder, does he know at what distance he must focus the camera and what stop he should use in order that the subject may fall well within the limits of sharp focus? The chances are that he does not know these facts but focuses his camera by guess-work; with the result that on development, he often finds some part of the picture not as sharply focused as he would have it.

However, based on the fixed relationship which the depth of focus bears to the distance for which the camera is focused, and the stop used, a chart may easily be constructed for any lens which will answer all these questions; and by the use of which one may be as certain of as sharply-focused pictures as he would obtain by using a ground-glass focusing-screen.

Some years ago I ran across a formula by which



PERSISTENCE H. P. HERRON

HONORABLE MENTION—MISCELLANEOUS ADVANCED

the limits of sharp focus of a lens may be computed for any stop and distance. Using this formula, I made a chart which shows at a glance the distances at which the nearest and farthest objects will be in sharp focus for any stop and distance at which the camera may be set. This proved so satisfactory that I have used it ever since, as I find that it removes the element of chance in focusing, and produces pictures with the expected depth of focus.

The chart shown is computed for a lens with a focal length of 4.75 inches and is based on a circle of confusion equal to 1/250, which ensures a negative of ample sharpness for enlarging-purposes. The chart is self explanatory and is figured to the nearest foot of distance, fractions of feet being omitted. The chart will be found to be of great practical value in field-work. The formulæ for its computation are as follows:

LIMITS OF SHARP FOCUS
FOR ANY STOP OR DISTANCE

F = focal length of lens
s = stop used (F-value)
D = distance to object in inches

$$\frac{\frac{F^2}{s} \times (D-F)}{\frac{F^2}{s} + \frac{D}{250}} + F = \text{Distance of near point in sharp focus expressed in inches.}$$

$$\frac{\frac{F^2}{s} \times (D-F)}{\frac{F^2}{s} - \frac{D}{250}} + F = \text{Distance to far point in sharp focus expressed in inches.}$$

The following example will illustrate the use of these formulæ in the construction of a pocket-chart for use in the field.

To find the nearest point that will be in sharp focus when the camera is focused for thirty feet and using stop F/8.

F = 4.75 inches
s = 8
D = 30 x 12 or 360 inches

Substituting the above values in the formula we have:

$$\frac{\frac{4.75^2 \times (360 - 4.75)}{8}}{\frac{4.75^2}{8} + \frac{360}{250}} + 4.75 = 240 \text{ inches or } 20 \text{ feet.}$$

The chart which I use is mounted on a piece of fiber board—heavy cardboard will do as well—and is protected by a covering of celluloid through which the figures are easily seen.

For lens whose focus is 4.75 inches

Stop F/	Distance				
	10′	15′	30′	50′	100′
5.8	9 –11	13–18	22– 47	31–130	45–**
8	8½–12	12–20	20– 60	27–334	37–**
11	8 –13	11–23	18–100	23–***	30–**
16	7 –15	10–31	15–***	19–***	23–**
22	6¾–18	9–53	13–***	15–***	18–**
32	6 –**	8–**	10–***	12–***	13–**

Some Photographic Shortcomings and Suggestions

LESTER KAHN

TO all of us of whom it may be said that we have been thoroughly infected with the gentle "Bacillus Photographicus", there comes a time when the touch and feel of a particularly fine piece of apparatus is followed immediately by a reflex action of hand to pocket. Sometimes, and to the great credit of the industry, one may say, almost always, that the purchase justifies itself; and another camera, enlarger, or other piece of equipment finds its way into our darkrooms, to the further improvement and expedition of our work.

Nevertheless, many of us are always conscious of the vague feeling that this thing or that, is, in some way or another, not fully up to the expectation we had held for it when our cowed and beaten cheque-book sustained the blow that bought the item for us. Of course, very often those shortcomings are due to our lack of experience; and we decide that the next time we buy we shall make sure that those features which we miss will be present in the next equipment we add to our store. Furthermore, it is too much to ask of any manufacturer that he incorporate in his products every feature, however costly, we might desire, regardless of the needs of the general—and less exacting—public.

What are we talking about? Well, let's get the pipes to drawing, find another chair for our feet, and talk the thing over.

Reflex Camera Shortcomings

Why can't we find a good reflex on the American market which may be bought with a direct view-finder and a focusing-scale? Oh, yes, we know that there are reflexes which have these things; but they are usually not fitted to take plate and cut-film magazines and roll-film holders which we should like to use. Again, why is it necessary to buy a reflex as large and heavy as a trunk, if one desires roomy and removable lens-board? Why again, is it too much to ask for a reflex which gets a reasonable bellows-extension by means of a double-extension bed rather than by means of a camera-body so long that the instrument becomes unwieldy? Further, who ever saw a reflex with both rising-and-falling as well as a sliding-and-tilting front? Yes, one can find a rising-front. But the camera is enormous, and the adjustment takes one hand to raise the lens and another to tighten the screw which holds it. The camera must meanwhile be held by a bodily contortion closely resembling swimmer's cramp.

The operating-position for a reflex is very often too low. Hence, the need of the direct view-finder to allow its use at eye-level. Again, we city-folks often like to picture some part of a tall building and the absence of a swing back—which is, of course impractical with the reflex instrument—is often sorely felt. It can't be so costly to make the front standard swingable; but nobody does it. There are many other points to regret—focusing-adjustments will seldom stay where put unless one keeps a death-grip on the focusing-knob; the devices which hold plate holders are too easily brushed loose

by the clothing when one must work quickly. But you will be familiar with many of the other improvable points.

Pocket-Camera Flaws

Europe, that home of the painstaking craftsman, is sending us small pocket-instruments which are a delight to handle and to use. But, even with these little gems of the instrument-maker's art, one must accept something less than completeness. For instance, why is it necessary to go through all the fuss of opening the hood which protects the ground-glass of the focusing-back, focusing, folding, and closing the hood, removing it to a coat-pocket, sliding the plateholder into place, and going through the whole rigmarole again when the exposure has been made? Surely the spring-held groundglass back is simpler to use. So, why not construct these instruments to allow one to slide the holder between camera and back without the need of removing the groundglass at all? Again, why is it necessary to build these little instruments in such a way as to require the services of an expert if one desires to slip another lens on the camera for an occasional exposure? But this last is no doubt one of those points where the maker cannot, as a matter of good business, pay too much attention to the occasional exacting user. Nevertheless, an easily removable lens-board, with interchangeable lens-boards easily obtainable, would add to the usefulness of these cameras. Swing-backs are obtainable in these instruments; nevertheless, they might be more widely fitted, with profit to those that use them.

Some Thoughts with Regard to Papers

We all know that the safest and best method to determine printing-exposures is by means of strips of the paper upon which we wish to print. This applies to those of us who are after a certain effect in the finished print and who have found out just how much any variation in developer-temperature, as well as other factors, can vary the exposure-time. Now then, why is it that practically no manufacturer—there are one or two exceptions—takes the trouble to slip two or three strips of the same paper into a package of 8 x 10 or 11 x 14 double-weight enlarging-paper, upon which one may make his initial trials? Will we always be compelled to waste the first sheet of every package of paper—which is expensive enough—in order to find out how our lamp is working? Surely, the paper-makers must have some waste, of which they could place a few trial-strips in each package for these tests. But, perhaps, this is an error; at any rate it is worth a little thought.

Another thing. When we drop into a supply-house to select a paper for some prints we wish to make from negatives which we have not as yet worked with, we are shown books of prints from which to select the grade and surface we desire. Each of us knows only too well that sinking feeling which comes over us as we look over those perfect examples of photography, and compare them mentally with the best we ourselves have turned out. Man, but those are beautiful prints! Do you suppose we could get anywhere near that one, if we were to use the same paper? Well, nobody knows what the negatives from which those prints were made, really look like. Perhaps, if we did, we could go about working for the negative-quality to get such prints as those on that particular paper.

Why not, then, include a few negatives to show just what negative made what sort of print, on which grade and surface of paper? Isn't it logical to suppose that this would help the amateur to get better prints, and so warm the cockles of his humble heart toward the paper-maker? We think it might.

But it would be rank injustice to close with this carping note. Never has the enthusiastic amateur had such a wealth of ingenious and exquisitely made material and apparatus to work with. Nor is there, in any line of business, a finer or closer bond of fellow-feeling than exists between the maker of photographs and the man who supplies his needs.

The manufacturer, the agent, the stock-house are all ready and eager to help the worker to obtain the right apparatus, the right materials, and the best of results. No concern in the field is too large or too busy to reply promptly, interestedly, and exhaustively to any inquiry that the smallest amateur among us may make. Whatever merit there may be in this plaintive wail comes without rancor, and with no other desire than to work some small advance in trade-practices, from a worker to whom photography has always been a source of gratification.

[It is a matter of record that most manufacturers, sooner or later, adopt many suggestions which amateur photographers make with regard to photographic equipment. To be sure, not all the suggestions are commercially feasible. Often the addition of a small accessory adds many thousands of dollars to the cost of production. However, the progressive manufacturer knows that he must give the public what it really wants and not what he thinks it should have. The hints and suggestions given by Mr. Kahn are intended to be constructive, and he intends no reflection upon any manufacturer or his product.—Editor.]

YELLOW EMPRESS
MRS. CHAS. A. BONFILS
HONORABLE MENTION—MISCELLANEOUS ADVANCED COMPETITION

EDITORIAL

Photographing Interiors

THE work of photographing an interior would not seem to offer serious technical difficulties. All that really is necessary is to see that the light is evenly distributed or diffused, and that there are no undue or offending contrasts. Few workers seem to pay sufficient attention to the illumination of an interior to be photographed. They appear to be unaware of the presence of strong highlights, which usually result in opaque shadows. To overcome this difficulty, it may be well to select a dull day when the light is well diffused. Then, too, it is desirable to avoid the presence of bright-looking objects or those light in tone. Unless these are absolutely necessary to the composition, they had best be omitted. In the arrangement of the furniture in the room, the worker's sense of proportion and fitness comes into play. It would not occur to him to include only a portion of a piece of furniture in the picture-space. Should such an object intrude itself, it can easily be moved aside. All the same, a feeling for artistic composition and balance should prevail. This is an important factor in the creation of an artistic interior—one where only harmony and good taste prevail. Of course, in cases where the photographer alone is to be considered, many liberties may be taken; but when he is called upon to photograph an interior —be it the living-room, study, or any other part of the home—he is supposed to use his own judgment, and, in that case, no fault can reasonably be found. Nevertheless, in all cases of doubt, the photographer should consult the person for whom the interior is to be made. It sometimes happens that the owner is ignorant of the proper setting of an artistic interior, or, *per contra*, he may be gifted with an individual feeling for the artistic. In any case, he may rely on the discriminating taste of the photographer. Of course, if the interior is to serve a special purpose, the owner is at liberty to suggest certain changes.

In photographing the nursery, where little children are at play, and furniture and toys present an appearance of confusion, it will be difficult to produce a peaceful scene; but here the skill of the photographer will come to the rescue, and overcome the appearance of disorder.

National Photographic Conventions

ALTHOUGH the regular annual conventions of professional photographers are supposed to be conducted for the exclusive benefit of professional workers, they offer much of practical benefit to the average amateur worker eager to increase his technical and artistic knowledge. The daily press usually reports these affairs at the time, so that all who are interested may avail themselves of the opportunity to inspect and study the latest and best in professional photographic achievement in every branch of the art. Not only is the hall filled with important and carefully selected exhibits, but the committee wisely provides opportunities to inspect exhibits produced by distinguished professional workers in other parts of the country. These displays do not fail to attract the notice of local workers, and also of visitors indiscriminately—from near and far—including amateur workers desirous to raise the standard of their own individual artistic work. Successful competition only emphasises the honor of having one or more prints exhibited at the National Photographers' Convention, an institution worthy the moral support of every worker in this country, be he amateur or professional. Sometimes the committee selects a portraitist of distinguished national reputation —one from Boston, New York, Philadelphia, or Chicago—to lead old-time workers, and also inexperienced but ambitious ones, to the various exhibits and point out their particular merits. This is an opportunity of which every visitor should be glad to avail himself. Conventions, which are usually held in some large city like New York or Philadelphia, make a special and important feature of individual exhibits of work by their own prominent photographers. These affairs afford considerable prestige to the cities where they are held, and the local press is only too glad to give them the prominence they deserve, by reproducing the photographs with which to illustrate their reports. Thus, it would follow that the more attractive the exhibits, the more public attention they will create—a condition greatly to be desired by everybody concerned. Enough has been said, here, to show the artistic importance of the National Photographers' Convention of America, whose meetings every photographer should attend.

ADVANCED COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA MAGAZINE, Advanced Competition
Wolfeboro, New Hampshire, U.S.A.

Prizes

First Prize: Value $10.00.
Second Prize: Value $5.00.
Third Prize: Value $3.00.

Honorable Mention: (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the publishers.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive an Honorable Mention Certificate. Those who win ten of these certificates and send them to us to be recorded will receive a neat silver cup, suitably engraved. There is no time-limit. However, ten certificates must accompany all requests for the cup.

Prizes may be chosen by the winners, and will be awarded in photographic materials sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books. If preferred, the winner of a first prize may have a solid silver cup, suitably engraved.

No Prize or Honorable Mention pictures are sold, exchanged or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs, and to responsible organisations for exhibition-purposes, *free of cost.*

Rules

1. This competition is free and open to photographers of ability and in good standing—amateur or professional.

2. Not more than two subjects may be entered, but they must represent, throughout, the personal, unaided work of competitors. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered into competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

3. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations and detail. Prints may be mounted or unmounted.

4. Each print must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. Enclose return-postage. Data-blanks sent at request.

5. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he shall have received official recognition.

Photo-Era Prize Cup

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data.

7. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right-angles to each other.

8. Competitors who have won three first prizes within a twelvemonth become ineligible to compete for prizes in this competition for *one* year thereafter.

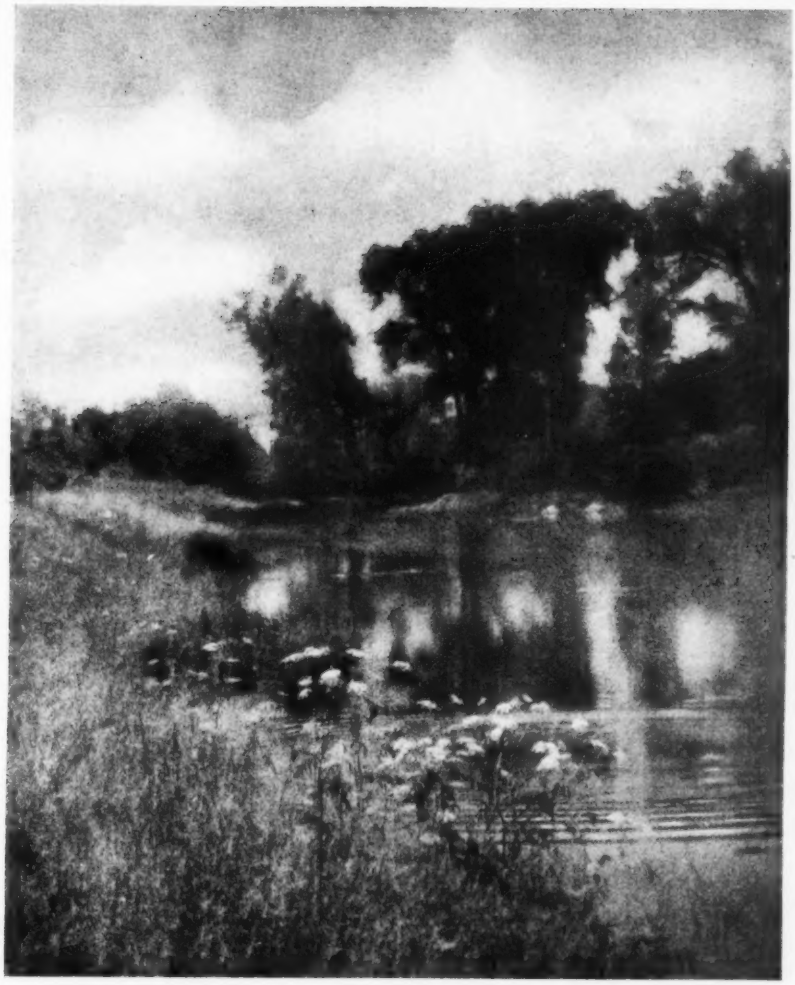
AWARDS—ADVANCED COMPETITION

Subject—LAKES, RIVERS, and BROOKS

Closed November 30, 1927

First Prize . . . . . Edward D. Mudge
Second Prize . . . . . Mario Lucio Scacheri
Third Prize . . . . . Wm. O. Yates

Honorable Mention: R. C. Biddle; J. V. D. Bucher; Boris Chudadoff; George M. Gerhard; Francis P. Griffiths; Zultan Herczegh; U. Stephen Johnson; Dr. K. Koike; Alexander Leventon; L. H. Longwell; Henry M. Mayer; Bruce Metcalfe; George Miller, Jr.; Gertrude Munn; Louis R. Murray; A. J. Pandian, Ralph F. Pratt; Leonard Purin; J. Herbert Saunders; John O. Scudder; John Skara; W. Henry Smith Jr.; Pehr Sparre; Vincent Stelcik; Dr. Max Thorek; Horace Tyzack; Albert Williams, Jr.



BRONX RIVER AT MOUNT VERNON
EDWARD D. MUDGE
FIRST PRIZE—LAKES, RIVERS AND BROOKS

Second Prize

ADVANCED
COMPETITION

LAKES, RIVERS
AND BROOKS

AFTERNOON ON THE DUNES — MARIO LUCIO SCACHERI

Third Prize

ADVANCED
COMPETITION

LAKES, RIVERS
AND BROOKS

SILVERY WAVELETS — WM. O. YATES

SUBJECT FOR NEXT COMPETITION

ADVANCED WORKERS

Subjects for Competition—1928

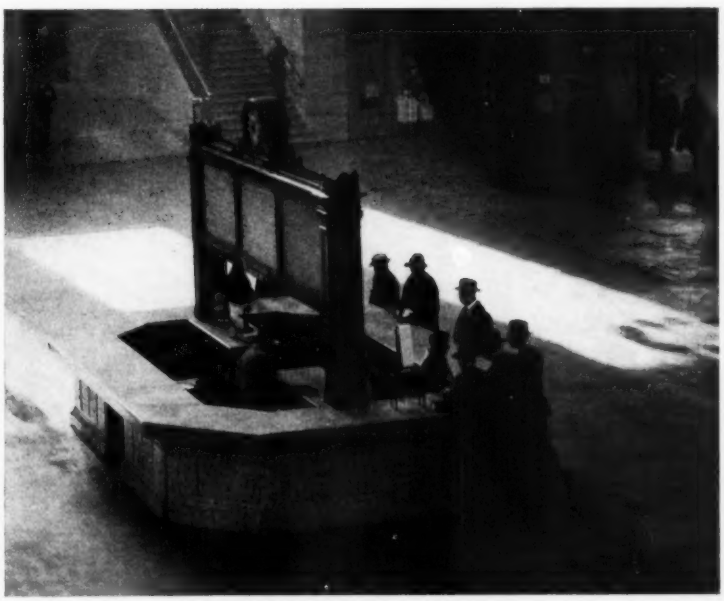
"My Home." Closes January 31.
"Portraits." Closes February 28.
"Indoor-Genres." Closes March 31.
"Table-Top Photography." Closes April 30.
"Artificial Light Photographs." Closes May 31.
"Architectural Subjects." Closes June 30.
"Pictures of Children." Closes July 31.
"Landscapes." Closes August 31.
"Outdoor-Genres." Closes September 30.
"Animal Pictures." Closes October 31.
"Water-Scenes." Closes November 30.
"Vacation-Pictures." Closes December 31.

Indoor-Genres

Of all our competition-subjects, the one of indoor-genres is, perhaps, one of the most popular with our readers. There is something about genre-photography that brings out the maximum in artistic and technical skill. Briefly, a genre is a portrayal of a person as is. More often than not, the subject is unaware of the photographer's presence. The aim of the genre-photographer is to be as informal as possible without sacrificing the fundamental laws of composition and technique.

Indoor-genres are those studies of persons which may, or may not, involve some use of artificial light. According to the limitations placed upon this competition by the subject, persons out of doors are not eligible to serve as models. Members of the family, business associates, professional men and women at work, the skilled mechanic, the railroad station, the convention-hall, the hotel lobby, and many other indoor subjects will suggest themselves. The important thing to remember is to make the picture indoors. There is much pleasure and a real thrill to making a good indoor-genre, whether it be of one person or of a crowded waiting-room with its many interesting groups and individuals. It is needless to point out that tact, consideration, and courtesy will often help the contestant to obtain superior results, particularly when he is dealing with officials or persons of prominence. Then, too, the quietly made exposure, when the subjects are unconscious of the camera's presence, is well worth attempting. Altogether, this competition offers our readers some very profitable photographic experience. It is for them to make the most of the opportunity.

A. H. Beardsley.



"INFORMATION" JOHN SKARA

EXAMPLE OF INTERPRETATION

BEGINNERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA MAGAZINE, Beginners' Competition
Wolfeboro, New Hampshire, U.S.A.

Prizes

First Prize: Value $7.50.
Second Prize: Value $3.50.

Honorable Mention: (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the publishers.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive an Honorable Mention Certificate. Those who win ten of these certificates and send them to us to be recorded, will receive a neat silver-cup, suitably engraved. There is no time-limit. However, ten certificates must accompany all requests for the cup.

Prizes, chosen by the winner, will be awarded in photo-materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books.

No Prize or Honorable Mention pictures are sold, exchanged or the half-tone plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

Rules

1. This competition is open only to beginners of limited experience with practical camera-activity, and whose work submitted here is without any practical help from friend or professional expert.

2. Workers are eligible so long as they have not won a first prize in this competition. Winners of the first prize automatically drop out permanently, but may enter prints in the Advanced Class at any time.

3. Prints eligible are contact-prints and enlargements up to and including 8 x 10 inches.

4. Prints representing no more than *two* different subjects, for any one competition, and printed in any medium except blue-print, may be entered. Prints may be mounted or unmounted, as desired. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

5. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations.

6. Each print entered must bear the maker's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer and printing-process. Enclose return-postage in this letter. Data-blanks sent at request.

7. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he has received official recognition.

8. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with data.

9. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right angles to each other.

PHOTO-ERA MAGAZINE
The American Journal of Photography
Wolfeboro, New Hampshire, U. S. A.
THIS is to certify that an Award of PRIZE
is hereby given to the picture entitled
entered by
in the PHOTO-ERA MAGAZINE Monthly Competition
which closed 192
Editor

PRIZE-WINNERS' CERTIFICATE

PHOTO-ERA MAGAZINE
The American Journal of Photography
Wolfeboro, New Hampshire, U. S. A.
THIS is to certify that an Award of *Honorable Mention*
is hereby given to the picture entitled
entered by
in the PHOTO-ERA MAGAZINE Monthly Competition
which closed 192
Editor

HONORABLE MENTION CERTIFICATE

AWARDS—BEGINNERS' COMPETITION

Subject—MISCELLANEOUS

Closed November 30, 1927

First Prize . . . . . W. A. Watson
Second Prize . . . . . Frank S. Ide

Honorable Mention: A. W. Clark; George W. Davis, Jr.; Eric O. Johnson; J. D. McCauley; V. Dolfi Orlando; Robert S. Smallwood.

First Prize

BEGINNERS'
COMPETITION

MISCELLANEOUS

'MID THE STAFFORDSHIRE HILLS — W. A. WATSON

AUTUMN — FRANK S. IDE

Second Prize

BEGINNERS'
COMPETITION

MISCELLANEOUS

EXPOSURE-MAKERS' COMPETITION

Closing the last day of every month
Address all prints to PHOTO-ERA MAGAZINE, Exposure-Makers' Competition
Wolfeboro, New Hampshire, U.S.A.

Prizes

First Prize: Value $5.00.
Second Prize: Value $2.00.

Honorable Mention (*a*) Those who win an Honorable Mention Award and are *not regular subscribers* will receive PHOTO-ERA MAGAZINE for six months with the compliments of the publishers.

(*b*) Those who win an Honorable Mention Award and are *already subscribers, or have been subscribers,* will receive an Honorable Mention Certificate. Those who win ten of these certificates and send them to us to be recorded, will receive a neat silver-cup, suitably engraved. There is no time-limit. However, ten certificates must accompany all requests for the cup.

Prizes, chosen by the winner, will be awarded in photo-materials, sold by any dealer or manufacturer who advertises in PHOTO-ERA MAGAZINE, or in books.

No Prize or Honorable Mention pictures are sold, exchanged or the half-tone plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker.

Entries are not eligible to Trophy Cup Contest.

Rules

1. This competition is open *only* to amateur photographers who for lack of time or equipment *cannot do their own photo-finishing.* Each contestant must compose his own picture and make the exposure without aid from friend or professional.

2. The name of the photo-finisher must appear on each print submitted. It will be printed under each prize-winning or Honorable Mention picture published.

3. Prints eligible are contact-prints and enlargements up to and including 8 x 10 inches.

4. Prints representing no more than *two* different subjects, for any one competition, and printed in any medium except blue-print, may be entered. Prints may be mounted or unmounted, as desired. Subjects which have appeared in other publications are not eligible, nor may duplicate prints be sold, or entered in competitions elsewhere, before PHOTO-ERA MAGAZINE awards are announced.

5. Prints on rough or linen-finish surface, and sepias, are not suitable for reproduction, and should be accompanied by smooth prints having the same gradations.

6. Each print entered must bear the maker's and photo-finisher's name and address, the title of the picture, and the name and month of competition, and should be accompanied by a letter, *sent separately,* giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, and exposure. Enclose return-postage in this letter. Data-blanks sent at request.

7. Prints receiving prizes or Honorable Mention become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives *after* he has received official recognition.

8. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces or fraction is sent with data.

9. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right angles to each other.

PHOTO-ERA MAGAZINE
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which closed .192.

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PRIZE-WINNERS' CERTIFICATE

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in the PHOTO-ERA MAGAZINE Monthly Competition

which closed. 192

Editor

HONORABLE MENTION CERTIFICATE

AWARDS—EXPOSURE-MAKERS' COMPETITION

Subject—MISCELLANEOUS

Closed November 30, 1927

First Prize . . . . . Mrs. W. H. Smith
Second Prize . . . . . J. Daniels

Honorable Mention: E. T. Hedlund; Paul W. Kearney; Katharine Matthies; R. E. Midgley.

B. P. O. E., JR. MRS. W. H. SMITH
FIRST PRIZE—EXPOSURE-MAKERS' COMPETITION

"BABES IN THE WOODS" J. DANIELS
SECOND PRIZE—EXPOSURE-MAKERS' COMPETITION

OUR CONTRIBUTING CRITICS

JUNE — P. H. MOON

THE PICTURE CRITICISED THIS MONTH

Whoever sends the best criticism (not over 200 words) before the last day of the current month, will receive from us a three-month subscription to PHOTO-ERA MAGAZINE.

The winning criticism, in our opinion, is the first one printed below. Criticism should be helpful and courteous.

Seven Criteria for Critics

(1) Background and Sky. (2) Foreground and Figures. (3) Main Interest vs. *Distraction. (4) Gradations and Tone Values. (5) Lines and Masses. (6) Atmosphere and Interpretation, and (7) Photographic Technique.*

THE quiet and peaceful dignity of a June day in the country. A mansion, hospital, or school on a hill that rises from the foreground, and placed, not in the center —which would be the weakest spot pictorially—but in the left third of the picture. Center vacant, suggesting quietude and spaciousness. At the right a mass of foliage as a balancing feature, and—more artistic yet—this compensating mass is in a curve whose lines offset and relieve the rigid geometrical pattern of the building. Harsh glare of white walls lessened and softened by foliage. And a puff of cloud lends verisimilitude to the scene. The mass of foliage to the right broken and enlivened by a dash of light.

In my humble opinion, one of the best pieces of composition seen in these columns for many a day.

If I were to try awfully hard to find fault with the technique, I might suggest longer exposure and possibly shorter development for the sake of softness and detail (all this talk about one rigid standard of development-time is pure bunk when one strives for particular artistic effects). The tree at the left—perhaps due to reflections from the house—has sufficient exposure, with proper gradations. But, clearly, the foliage in the middle distance and at the right is too sooty to be true to nature for those with normal eyesight. And, by the way, why won't folks use a meter and avoid such errors?

The composition is truly admirable. The photographic technique is unfortunately far from perfect.

Might I suggest: (1) Ascertain the actinic power of the light. (2) Ascertain the speed of your emulsion. (3) Expose for the shadows. (4) Don't over-develop for scenes like this—use even less than "standard" time. (5) Experiment (if you don't know) with various grades of printing paper until you get the nearest to the effect you aim at.

All this may cost an extra dollar or so, and may call for a certain amount of brain-work; but for a photographer who is not satisfied with hit-or-miss snapshots, it always pays, not only in money, time, and labor, but in artistic satisfaction.

E. L. C. MORSE.

ANALYSIS of this picture reveals its foundation of technical excellence. Exposure was ample. Development was not carried too far. One judges that an orthochromatic emulsion and yellow filter were used. The full scale of the printing-medium is present. Soft drawing lends itself well to the purpose, and no one part unduly attracts attention to itself from the whole. Throughout there are evident a mastery of photographic methods and the skill to make them serve the desired end.

At first glance, it might seem an improvement to include more at the left. This really is not so. Moving the house to a stronger position might make it the principal point of interest and detract from the presentation as a whole. Only one minor defect occurs to the writer. Show the three dimensions of the house a little more plainly; but only if the required change of viewpoint does not lessen the sense of air and space and sun of early summer so well set forth at present.

SUNSET ON THE PAMPA — PHILIP O. WESTON

YOUR CRITICISM IS INVITED

Data: Made in Atocoma Desert, Chile; February 21, 1927; 4 p.m.; Kodak No. A; R. R. lens; at F/8; 1/25 seconds; dry-plate; elon-hydro, tray-method; 6 minutes; print, Azo Semi-Mat; elon-hydro.

Ars est celare artem. So it is here. One can almost feel the soft languorous air and sunlight of June and almost see the wide panorama from the noble old house on the hill.

B. H. Jacobs.

In this picture is evidence of a technical skill that any worker would be proud to possess. The tone-quality and gradation is of exceptional merit.

But where tone is form, composition is life; and it is in composition that the picture fails. The author has tried to join two pictures, a picture of a building on the left and one of several trees and beautiful clouds on the right. The eye of the observer is caught within the picture; it shifts from left to right, and from right to left. After making an entry, it has no place for an exit. The two sides of the print produce a confusing balance, with each side distracting from the effect of the other and from the unity of the whole.

We have all become, through observation and practice, accustomed to pictures having one dimension not more than one and a half times the length of the other. Just as there is a Golden Mean, so there is a Golden Proportion for a picture; and a departure from this is almost invariably displeasing.

But here within the whole there is a hidden jewel. If one covers all the picture but a small area in the lower right corner, and then projects, in his mind's eye, the remainder to the size of this magazine's page, one has in a second a picture that truly represents the title "June".

Francis P. Griffiths.

In this picture of "June", why include the mansion? What is that on the left? Is it a tree, and what supports it—is it suspended? This is an unsuccessful attempt at a panorama, and it is unbalanced by the masses on the left. Masking off the house, we observe a more balanced artistic view; yet it is not perfect. Why? Because the foreground is sloping, and is void of detail, which is not agreeable to the other masses.

However, it has its compensations, with the beautiful rendering of the clouds, and the small cottage just asserts itself the right amount. The atmosphere of this new view is typical of June, and its spirit impresses the onlooker. The purpose of the picture with its title should convey the suggestion of the season; yet the mansion distracts, draws the eye, making it appear architectural and as yet unfinished—the impression drifting into oblivion with no object.

It would appear without doubt that this particular spot is charming, and fortunately its charm has been captured, though unartistically—making it of no real value except to the person concerned for record purposes. Again, I do not like the sloping foreground, which spoils the suggested masked view, as no object is available to balance the trees on the right, and it introduces the suspicion of a tilted camera.

James A. Bell.

"June" makes its appeal to the discriminating beholder by reason of the simplicity of its composition and its fine color-values. There is no excess of wearisome details, nor any distracting feature, and all the elements make for simplicity and unity.

We feel the peace of the scene and the warmth of the June day, and we can almost hear the chirping of the crickets. The sky is beautifully rendered, the group of trees at the right balances the house at the left, and the line made by the rising ground leads the eye of the spectator from the right up to the house in the left part of the picture.

A small portion should be trimmed from the left side of the picture, just enough to remove the dark mass of foliage, which adds nothing to the picturesque and is not in harmony with the subject-matter.

Ewald Haase.

(*Continued on page 116*)

OUR ILLUSTRATIONS

WILFRED A. FRENCH, Ph.D.

PREPARATORY to writing this column, we glanced at the illustrations of the current issue and have been impressed with the fact that our task in reviewing these various illustrations promises to be a pleasurable one. For instance, the frontispiece, "Meadow Brook", by Leonard Purin, arrests the attention of the beholder by reason of its obviously artistic, well-balanced arrangement. The artist has skilfully avoided any tendency toward monotony in the treatment of the field, which is dotted with flowers and charms the eye by reason of the spontaneously curving line of the brook and its outlet in the immediate foreground. The perspective and atmospheric quality of this masterpiece of pictorial composition reveals highly artistic qualities. The atmospheric effect has been well revealed, and the eye is loth to leave this delightful scene.

Data: Made in Tinley Park, Ill.; July, 10 A.M.; Korona View, 4 x 5 camera; Struss Pictorial lens, at F/5.5; K-2 filter; 1/5 second; Hammer D. C. Ortho plate, developed in Pyro; tray; printed on Eastman Portrait Bromide.

The three marines, pages 66 and 67, betray an appreciation of the difficulties of artistic arrangement. However, one cannot help wishing that the exposure had been more fortunate; for the contrast between the rocks and the surf is so strongly marked that it deprives these impressive scenes of some of the delightful, pleasing result.

Data: "Neptune Hammers on Golden Gate"; stop, U. S. 8; 1/100; Rapid Rectilinear lens. Made in San Francisco harbor, Land's End. "Hawaiian Waters"; lava tube on coast of Puna, Hawaii; stop, U. S. 4; 1/100; Rapid Rectilinear lens.

"The Cheerful Hearth," by George W. French, shows the exercise of admirable judgment in the length of the exposure. The common fault of photographs of interiors is the allotment of insufficient length of exposure. In the present instance, however, the artist has avoided the danger of undue contrast which, usually, is detrimental to the success of the average interior. Masterful, technical treatment on the part of the artist has produced an exceptionally commendable degree of softness throughout the entire picture. In this respect alone, Mr. French's present endeavor is a model worthy of emulation by all who would succeed in engaging in this difficult part of photography. We envy the opportunity of PHOTO-ERA readers in lingering with pure enjoyment over "The Cheerful Hearth".

Data: Made in New Jersey; November, 1925, 2 P.M.; clear; Eastman Portrait Film; B. and L. wide-angle lens; 7-inch focal length; stop, U. S. 32; 2 minutes' exposure; Metol-Hydro developed, minimum of carbonate. Fire made during the last minute, or rather few seconds, by burning a newspaper; Artura Iris Buff.

The artistic intent of "Sit Up Now!" by Paul W. Kearney, page 71, cannot escape words of praise. The composition breathes spontaneity of intent. The attitude of the little boy, in his desire to engage the toys in conversation, is captivating; the whole idea is so admirable that one is disinclined to criticise any possible shortcomings in the arrangement and lighting which in this instance are remarkably successful and pleasing. Our compliments to Mr. Kearney!

Data: 4 x 5 Tele Graflex; Eastman film-pack; 7½-inch B. and L. Tessar Ic; 1/15 second at F/4.5; late afternoon on a rather hazy day.

Mr. Werner Mueller is to be highly complimented for his most successful astronomical photographs, page 73. The technical difficulties of his endeavors may not be apparent—all the more reason for commending his efforts.

Since our boyhood-days we have been familiar with photographs of Niagara Falls made by expert photographers of the highest reputation, including those who live on the spot in order to be on hand to take advantage of the suddenly favorable and unexpected rare atmospheric opportunities. All the same, we do not remember ever to have seen, anywhere, such a magnificent portrayal with correct color-values (page 77), of the seething waters of the great cataract as they assemble in their onward rush toward the great, deep abyss below. In years gone by, we remember to have admired magnificent photographs displayed in railway offices, where they were placed to entice travelers to make their objective Western journeys by way of Niagara Falls.

Data: Made at Niagara Falls, Ontario; Graphic camera, 3¼ x 4¼; Tessar lens at F/4.5; 5-inch focal length; no color-screen; August, 8.30 A.M.; light, hazy; 1/10 second exposure; Agfa film-pack; M. Q. developer; Wellington Bromide paper.

Our good friend, George W. Davis, has caught the spirit of "Ye Olde Mill", page 80. The subject is well placed, so that it may be enjoyed to the full by PHOTO-ERA readers.

Data: Made near Knoxville, Tenn.; Premo camera 100; 6½ x 8½; B. and L. Protar Convertible lens; focal length, 9⅛ inches; stop F/8; K-2 color-screen; August, 11 A.M.; bright light; 5 seconds' exposure; Eastman Ortho Cut-Film; pyro; Azo 3.

There is a strange personal reminiscence in viewing "Summer-Tranquillity", page 89. A view of a similar subject and arrangement appeared in PHOTO-ERA some time during the past few years. Such being the case, we ought not to have omitted to point out the engaging atmospheric effect of the subject under consideration. We cannot help wishing, nevertheless, that the single tree, at the right of the center of the picture-space, might be less conspicuous. It would have served its purpose as an adjunct to the pair of sturdy trees at the left equally well, had the artist resorted to the restraining influence of a little opaque—carefully placed on the glass-side of the negative.

Data: Ica Ideal "B", 9 x 12 cm.; Zeiss Tessar F/4.5; ½ second; K-1 filter; Standard Orthonon; 8 A.M.; good light; Rodinal tray-development; enlarged on Velours Black; Buff Platinum.

"Persistence", page 91, represents an episode which contains nothing special to arrest the eye of the

observer. Nevertheless, it is striking by virtue of its utter simplicity; and yet, the reader is not apt to turn this page without speculating as to the significance of the imaginary whispered conversation. What of the apparent persistence of the nearest figure? One is inclined to suspect that the younger of the two men is importuning the older man. How much of a loan is it likely to be?

Data: Made in Quebec City, Canada; Graflex, 3¼ x 4¼ camera; Verito lens; focal length, 8¾ inches; stop, F/8; September, 8.30 A.M.; bright light; 1/35 second; Agfa Film-Pack; Elon-Pyro; Velours Black.

"The Yellow Empress", page 94, appears to be a species of chrysanthemum, the variety of which is numerous. It is evident that the vase must occupy its present position so as to afford sufficient room for the display of the flower. The entire setting merits words of high praise.

Data: Made on September 20, 1927; electric-chandelier light with reflector, two 100-watt, one 60-watt reflector, one 100-watt to side back; Eastman Polychrome; Carl Zeiss Protar VII; 35 cm. at F. U. S.; rear-element alone; stop, F/8; 105 second; 7-times color-screen; Metol Hydroquinone; Haloid Industro, Grade A; a straight photograph; contact-print.

Advanced Workers' Competition

THE scene in the Bronx, page 97, is typical of that picturesque locality. The author of this artistic bit has availed himself of every opportunity here presented. The foreground has been treated with fine discretion, combining and harmonising to a delightful degree with the distant trees and their reflections on the watery surface. The *tout ensemble* reveals a fine sense of unity and balance. The gradations, throughout, are truly pleasing.

Data: Bronx River at Mount Vernon; 5 x 7 Korona View camera; Ilex Symmetrical lens; 8-inch focal length; stop, F/8; K-2 color-screen; August, 2 P.M., bright sun; 1/5 second; Eastman Commercial Panchromatic Film; pyro-soda, tray-developed; Bromoil on Velours Black, Platinum Matte.

"Afternoon on the Dunes", page 98, contains much for serious consideration by the discriminating observer. Incidentally, Mr. Scacheri has included an apparently intruding bush in the foreground, and, for reasons of his own, he has reversed the order of definition by giving more clearness to the near bush than to the distant group of trees. The distorted mass of leaves, in the upper right corner, does not seem to enhance the artistic or pictorial value of the ensemble, and yet its absence would be detrimental to the needed balance in the present instance.

Data: Made in August, after 5 P.M.; 1/100 second; F/8; Agfa Film-Pack, 9 x 12 cm.; Erneman Reflex camera with Ernotar F/4.5 and focal plane shutter.

The division of masses in "Silvery Wavelets" speaks of a profound comprehension of art-principles. One would not wish the least change in the present aspect of the picture, for it is completely satisfying to the trained and appreciative observer.

Data: Made near Erie, Pa.; 8 x 10 Century View camera, using back cell of Gundlach R.R. lens; focus 28; stop F/20; exposure, 1/5 second; September, 4 P.M.; Panchromatic film; Vitava contact print.

Beginners' Competition

M. A. WATSON, as a self-declared beginner, deserves highest praise for having produced a picture worthy of the mettle of a most experienced pictorialist. Try as he may, the most exacting critic is at his wits' end to discover a flaw in this exquisite and beautifully composed valley. He who has visited the Lake Country in England must be acquainted with the ravishing beauty of what here may be the well-known Lake Country. One is loth to leave this scene of earthly paradise.

Data: Made in the Staffordshire Hills, England, on October 9, 1927; Wellington Anti-Screen plate, 3½ x 2½; 1/10 second at F/4.5; T. P. Reflex 5¾-inch Cooke lens; good light; made at dusk; M. Q. developer; enlarged on Wellington Cream Champion Bromide; developed with Wellington M. O.

There is another picture on this page which claims our attention, and justly so; for, in "Autumn", Mr. Ide presents a veritable masterpiece in simplicity and beauty of composition and atmospheric effect. The mass of bushes on the nearer shore contrasts admirably with the distant shore.

Data: Ica Reflex camera; 3¼ x 4¼; Carl Zeiss lens; focal length, 15 cm.; stop F/5.6; 5-time color-screen; October, 3 P.M., cloudy; 1/60 second; Eastman Graflex roll-film; Eastman Special developer; Defender Velours Black Veltex.

Exposure-Makers' Competition

MRS. SMITH, the author of the strong piece of realism, page 103, would seem to merit no special commendation as a creative artist. She appears to have simply snapped the horned creature at a convenient distance. All would seem to be the work of haste without artistic consideration, were it not for information contained in the data which partly explains the distorted background and that of the hind legs of the elk. All the same, one is glad to make the acquaintance of a not too common species of the animal kingdom.

Data: Made at San Antonio, Tex.; Eastman 2 camera; 5 x 7; Goerz Dagor; focal length, 7 inches; stop 16; October, 4.30 P.M.; good light; 1/50 second; Hammer plate; M. Q. developer; P. M. C. 5; spent two hours waiting in camouflaged concealment; elk gone in a flash.

"Babes in the Woods", second prize, gladdens the eye by a peep into the woods, where the youngsters are at play. Here the children can be seen walking along a regular path; the sun is streaming through the branches of the trees and illuminating the path with pleasing shadows. With artistic foresight, the pictorialist has placed a broad, heavy shadow in the immediate foreground, thus supplying what, in artistic composition, plays the rôle of a solid foundation.

Data: Made in Prospect Park, Brooklyn, N.Y.; 4 x 5 Graflex camera; Verito lens; stop, F/4; August, 6 P.M.; 1/5 second at F/4; Agfa Film-Pack; Cream Bromide enlargement.

Deeks Demonstrates Color-Process

FOR the first time in history, positive prints in color from three-color separation negatives were made before an audience at the meeting of the Society of Photographic Craftsmen of Detroit in the Graphic Arts Building.

The new process of color-photography was demonstrated by Hiram C. J. Deeks, of Sea Cliff, N.Y., inventor and pioneer in color-work, who canceled an invitation to give the first public demonstration in London to accept the invitation of the Detroit society. The print made by Mr. Deeks in his first demonstration was a reproduction of a delicately-tinted Roman vase.

Although predicting that color-photography soon will become one of the popular arts, Mr. Deeks indicated that black-and-white photography has nothing to fear from the process, which will become, rather, a competitor of painting and engraving.

"It is my opinion that in a few years from now it will be nothing unusual to see colored photographs sell for $5,000 or more", Mr. Deeks said.

"The process is at least ten times as expensive as black-and-white photography, but the added cost is only a small item. Everything depends upon the skill and resource of the artist. With sufficient care, one may make colored photographs which are as delicate and as beautiful as an oil-painting. The colors are permanent.

"Nothing checks up, and hardly anything is quite certain in color-photography. It is only after four or five years' experience that results come. In black-and-white photography, one seeks contrast in light and shade. In color-photography, one seeks contrast in color alone, although the true artist goes after the delicate colorings and leaves the glaring shades to the beginner."

The finesse necessary to successful work in color-photography was indicated by the fact that Mr. Deeks required more than one hour to make one print before the Detroit society, although he worked flawlessly and on schedule.

Three separate exposures are made of any subject to get one color-picture, blue-violet, green and orange-red filters being used in turn. In the printing-process, the filters are complemented by yellow, red, and blue color sheets.

The color-sheets are prepared in manufacture so that the color image will peel from the celluloid, and this feature enables the three images to be easily combined in register upon a white paper back. The three-color images so combined produce the original colors of the subject photographed.

Little possibility of simplifying color-work so as to eliminate the three-plate process is seen by Mr. Deeks, although he says that some of the greatest strides in the advancement of the art have been made within the past few months.

Detroit News.

Early Photographic Plate

A HITHERTO unrevealed chapter in the history of photography—the making of the first paper prints in the United States by an unknown process—has recently been uncovered at the Smithsonian Institution.

This was the work of an itinerant Universalist minister, Abel Fletcher, at Massillon, Ohio, in 1845. The only method of photography believed to have been known in the United States at that time was the making of daguerreotypes. This did not permit any copies to be made. A separate sitting was required for each picture.

About 1839 Fox Talbot in England invented a method of making paper-negatives from which reproductions could be made, which is the foundation of modern photography. Talbot, however, patented his process, and it came into use very slowly.

There is considerable doubt whether Fletcher had in some way learned of the methods of Fox Talbot or whether he had struck out on an entirely new line. If the latter is true, he must be considered practically as a co-inventor of photography with Talbot.

Nothing is known of his process. After he had made a few negatives he was blinded by an explosion of concentrated ammonia in his laboratory, and remained totally blind until his death in 1890. The name of this obscure inventor remained unknown until a few weeks ago, when the Division of Photography at the Smithsonian Institution received a letter from an Ohio druggist containing some account of his work. Smithsonian officials then wrote to Mr. Fletcher's daughter, Miss Lillian M. Fletcher, and received from her a brief account of her father's life, together with all the old negatives made by his process which she could find in his effects.

Several of these have been printed recently, and, despite the fact that they are nearly seventy years old, the details stand out just as clearly as ever. They will be made a part of the exhibit illustrating the history of photography at the National Museum.

Fletcher was born in Richmond, Va., and in early life was a school-teacher. Afterward he turned to the Universalist ministry, and filled pulpits in New England and Pennsylvania. Shortly before 1845 he set up in Ohio in the then flourishing trade of daguerreotypist and worked out his own process. Even if he had come in some way on the methods of Fox Talbot, he still must be considered as one of the pioneer print-photographers in America. If he had devised a process of his own, he is entitled to a high place among American inventors.

The National Tribune.

A Successful Woman Photographer

SOME school-teachers have hobbies that take their minds from the oft thankless task of correcting defects in training of other women's children, and sometimes these hobbies cost money. Sometimes, again, they fetch home the bacon in prodigious quantities. Such has been the experience of a young woman, who when not teaching, made pictures of still-life with her camera, developed her films, and made her own prints. She is Miss Ella McBride of Seattle, Wash., considered to be supreme among those in her art; and fame and wealth are hers.

International honors have come to her. Her exhibitions are now placed among the fine arts in Britain, France, Poland, Belgium, Sweden, New Zealand, Australia, and Japan.

Her father was an artist with rare ability, and he hoped that his daughter, his little comrade, would follow his steps. But economic needs forced her to earn her living, as artist-fathers rarely are scandalously opulent. So Miss Ella went to normal school and went teaching. Her camera-work attracted a leading photographer. He asked her to quit teaching and run his studio for him. She did.

Now they designate her as "the exemplar of still-life", and she frankly declares she never studied the formal mechanics of photography. "I simply tried hard to depict nature at its best", she says. "It was a new art of expression, and therein lies the secret of its lure for me. And I haven't a word to say against its financial charms".

Miss McBride employs a staff of skilled artist-photographers, and also keeps two sculptors busy, and her studio resembles a grand museum.—Exchange.

It's English, You Know

AN English vaudeville actor was singing "Baby Face", only he pronounced it "Biby Fice". This was not going over with his audience at all, so a brother actor told him that he would do better to sing it in American, "Yes", he replied, "but 'Baby Face' does not rhyme with the next line, 'Tike your plice'."

Exchange.

ON THE GROUNDGLASS

WILFRED A. FRENCH, Ph.D.

She Had "Went"

A SCHOOL-TEACHER instructed a pupil to purchase a grammar, and received next day this note from the child's mother: "I do not desire for Lulu shall ingage in grammar, as I prefer her to ingage in useful studies and can learn her how to spoke and write proper myself. I have went through two grammars myself and I cant say they did me no good, I prefer her ingage in german and drawing and vocal music on the piano."—Exchange.

MRS. SHIMMERPATE, just back from Europe, said to Mrs. Beanbrough:

"I just couldn't bear looking at the ruins in Italy. They made me homesick for my husband."

"Homesick for your husband?"

"Uh-huh. You know, Henry has fallen arches."

Glasgow Herald.

Smiles vs. Frowns

KEEP the corners of your mouth turned up, no matter how gloomy the prospect may be that you think you are facing. It's "Smiles you win, frowns you lose", almost to a certainty, in almost every circumstance.

There is not even standing room in the world today for a pessimist. The grouch is a failure and a menace.

Know the sheer joy of living, for life is good in and of itself. Just to feel the glow of health, to bask in the sunshine, to hear the birds sing, to thrill with human love and sympathy, to feel the satisfaction that comes from appreciation of a good picture, good music, a good book, to idle away an occasional hour or two in perfect physical and mental contentment—these are worth while, and something that life owes to each one of us.

If we allow life to cheat us in this respect, we can never quite reach the highest pinnacle of success or service. Why be satisfied with anything but the best?

Contact.

I DO the very best I know how—the very best I can, and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything; if the end brings me out wrong, ten angels swearing I was right would make no difference.

ABRAHAM LINCOLN.

WHO was it who declared that most of the pleasantest things we like to do are unhealthy, immoral, or extravagant? Perhaps it was the same one who remarked that it is heaps easier to suffer remorse than to practice self-denial.—Exchange.

THE man who misses all the fun is he who says, "It can't be done". In solemn pride he stands aloof and greets each venture with reproof. Had he the power, he'd efface the history of the human race. We'd have no steam or trolley cars, no streets lit by electric stars, no telegraph, no telephone. We'd linger in the age of stone. Then, when some keen barbaric brain, of life's conditions dared complain, and planned a wheel on which to roll the load his arms could not control, sneers would arise from all the crew that ever scoff at what is new. The world would sleep if things were run by men who say, "It can't be done".

The Boston Mail.

An Educated Man

"IN my opinion", says Dr. S. Parkes Cadman, "an educated man is one whose body is the servant of his will; whose mind is stored with the richest realities of truth from every realm; whose heart is mellowed and subdued by unselfish passion for the benefit of his fellow men, and whose conscience is tender toward helplessness and indignant against militant wrong.

"He has learned to love beauty, truth, and goodness, whether in nature, art, or religion, and to hate all which is unclean and despicable, either in himself or in others."—Exchange.

EDISON sometimes conducts ten thousand experiments before he finds something that will work. He is one of the world's greatest stickers. Read these timely words uttered on his seventy-third birthday: "I am glad that the eight-hour day had not been invented when I was a young man. I am wondering what would have happened to me by now if fifty years ago some fluent talker had converted me to the theory of the eight-hour day and convinced me that it was not fair to my fellow workers to put forth my best efforts in my work. This country would not amount to as much as it does if the young men of fifty years ago had been afraid that they might earn more than they were paid."

The Boston Mail.

IT used to be that a fool was a person who didn't know anything, but now a fool is the fellow who knows it all.—Exchange.

He Would Be Brief

WE once heard of a man who boasted that he could frame all his answers in a single word. Well, we met his equal the other day; and when we told him we had just come across our doctor at a friend's house, he smiled and said, "Metaphysician".

Then we asked him if he could guess at what hour we had breakfast that morning, and he nodded his head and said, "Attenuate".

To change the conversation we inquired what he thought of peroxide as a hair-bleach, and he said sharply, shaking his head, "Dynasty".

We invited him to come home with us and take a bite, at least; and he replied with an accepting nod, "Dynamite".

But he capped the climax when we asked him if we might hope to hear a speech from him at a public dinner next week, by proudly saying, "Expectoration".

Contact.

THE MONTH IN APPLIED PHOTOGRAPHY

C. B. NEBLETTE, A.R.P.S.
Division of Photography, A.M., College of Texas

University of Southern California to Sponsor Four-Year Course in Motion-Picture Technology

ACCORDING to *The Motion-Picture*, the official publication of the Motion-Picture Producers and Distributors of America, of which Will Hays is president, the University of Southern California is to sponsor a four-year course in "technical training for the motion-picture industry", to quote the words of the statement. The new course will comprise architecture and fine arts, the science and technique of kinematography, and composition, literature, and dramatic criticism, including scenario and continuity writing. Speaking on the project, President von Kleinsmid said: "The motion-picture industry is a complicated one which finds its origin in various sciences. What is now needed is distinctly organised courses in adaption of these sciences to the requirements of the motion-pictures".

The proposed course will, therefore, include much beside motion-picture photography; it will be, properly speaking, more of a course in Motion-Picture Technology than in kinematography. And somehow the writer cannot help feeling that the work in kinematography itself will form only a very small part of the course to be given. The writer has noticed with some concern the relatively small amount of time and attention that is being paid to the matter of kinematography, as distinct from motion-picture technology, in all of the plans for courses and colleges of motion-picture work which are brought forward from time to time. Those who have such matters in hand will do well to consider that, after all, photography is the basis of the motion-picture industry, and that no matter how great the attention paid to acting, staging, direction, and lighting-effects, all is dependent upon the cameraman whose narrow strip of flexible cellulose must be depended upon to carry to the outermost corners of the world scenes and episodes which may have cost many thousands of dollars to stage. We are quite ready to admit that a college which is to meet the needs of the motion-picture industry must include more than the technique and science of photography and kinematography; but we do not feel that these can be left to take care of themselves and that they can be treated as a poor relation in the midst of rich and haughty autocrats of lighting, direction, costuming, staging, and the like. If a motion-picture photographer is to be worth his salt to the industry, four years of major instruction in the science of photography and in the technique of kinematography will hardly be too much. Nothing is to be expected for a few hours per week interspersed with lighting, costuming, decorative art, and the like. Thus, the work of a college of motion-picture technology will resolve itself into a number of highly specialised departments in which students will pursue their studies in that particular field in which they are most interested, and for which they feel best adapted by nature. The sooner this fact is realised by those who are engaged in the organisation of such projects, the better will it be for photography and for the motion-picture industry.

Lest it be thought that we are in the act of "throwing dirt" at what is, in our mind, an estimable undertaking, may it be said that the above remarks apply in no way to what is being done at the University of Southern California. We have as yet seen nothing more than the general statement in *The Motion Picture*, and the precise details are unknown to us—if all of the matters of organisation have yet been settled. Our remarks are based largely on a number of similar projects which have been brought forward in the last two or three years, and not at all by any developments which have taken place at the University of Southern California, to which we wish every success in the initiation of the course.

While the motion-picture industry speaks of endowed and extensive institutions for the training of men for the art, what are other branches of photography doing towards the development of the science by providing adequate, comprehensive instruction to men and women who desire to enter the profession as a life-work? A College of Motion-Picture Technology established and maintained by the motion-picture industry cannot be expected to develop work in such branches as industrial and dental X-ray photography, photomicrography, photoengraving, and all of the other highly specialised branches of photography which have no direct connection with motion-picture work. What are to become of such branches? Are their existence and importance not sufficient to justify the establishment and maintenance in some university or technical institution of a department or a school of *photography*, not motion-picture technology, where thorough and scientific instruction may be given not only in the science of photography but in its scientific applications?

X-Ray Photography in Industry

I SUPPOSE that there are few who realise the extent to which the X-rays are used in the examination of raw materials and manufactured products of industry. There are some very decided advantages of X-ray examination which, once grasped in their full importance, explain the widespread use of the X-rays for the examination of manufactured products and the rapid spread of the method to virtually all branches of industry. An X-ray examination is practically the only method of examination which can be applied to the finished product without damaging or defacing it in the least, and it is the only method which enables us to examine the inside structure of a manufactured metallic part. All other methods of testing, whether by impact, as in the Brinnell test, bending, drawing, or by microscopic examination, must be conducted with *samples*, and cannot be applied to the finished product. A microscopic examination of the metal of the crank-case of your car may show nothing in the way of defects, but an X-ray photograph may

show the existence of cracks, strains, or gas blow-holes within the metal. And it is the existence of just such hidden defects as these that determines whether the part will stand up under the strains and stresses to which it is subjected. It is to locate these hidden defects that the X-ray examination is so widely employed in many branches of industry.

In many cases the image of the object may be observed on a fluorescent screen, and photography is not employed; but with the majority of parts this cannot be done. Metallic substances offer so much resistance to the passage of the X-rays that the image on the screen would be too weak to be of any value—if it existed at all. Hence the services of photography are called into play and pictures are made of the part to be examined.

Nowhere is more use made of X-ray photography for the examination of metal products than by the Army in its arsenals. Parts of the big guns used on our battleships and for the defense of our coasts, and the "noses" of the bombs dropped by our aircraft, are all examined by the X-ray whenever there is the least doubt as to their condition. Not so long ago the Ordnance Department let a contract to several private manufacturers for the nose of an aircraft bomb. This bomb was to weigh 1,100 pounds and had to be provided with a steel-nose of a certain form and of such quality that it would penetrate a foot of concrete, or proportionate amounts of other substances, before exploding. It was a very difficult assignment; and when the firms in question submitted samples, these were naturally gone over very carefully by the experts of the Department and tested in various ways. Some of these, which gave every appearance of being perfectly adequate, when examined from the outside, were found to possess long cracks, numerous gas-holes, and included slag and sand when X-ray photographs had been made. The defects mentioned lay buried deep within the metal, and by no other means except the X-ray photograph could their existence have been detected in any particular sample, although, of course, the liability of its occurrence could have been secured from an internal examination of *samples* by other means.

Any number of other little stories along this line might be found if one would delve deeply in any of the fields in which the X-ray is in almost daily use. The fact of the matter is that the X-ray is rapidly becoming the critical test for either the raw materials or the finished product in nearly every branch of industry; and the subject of X-ray examination should be covered with the same thoroughness as the other methods of testing by mechanical or microscopical examination that students master, or are supposed to, in their work in metallurgy and various branches of engineering. It would be interesting to know in how many schools this is being done.

Spectrography of Phosphorescent Materials

A FEW months ago, on this page, reference was made to the work on the phosphorescence of the firefly, luminous wood, and the like, at the United States Bureau of Standards. Prof. H. A. Taylor of the Department of Chemistry at New York University, writing in the November (1927) issue of *Scientific American*, shows spectrograms of various samples of zinc-sulphide which illustrate how the wave-length of the phosphorescence of this substance is dependent upon its impurities. As a matter of curiosity there is a reproduction of a photograph of a painting which has been photographed solely by its own phosphorescence—the various phosphorescent materials employed being so distributed as to produce the highlights and halftones of the picture.

An adequate explanation of phosphorescence is being eagerly sought by scientists, who hope that it may furnish new light on the structure of matter. It is hoped that studies on the phenomena of phosphorescence may help to explain how an atom stores up energy when it absorbs light. Is an electron displaced within the atom only to return later accompanied by the re-emission of light?

There are others who are more interested in what is more immediately practical. Can phosphorescent materials be developed which will enable them to be extensively used for illumination, or must their use remain confined to making clocks and watches visible by night? All these and many more questions arise to encourage new investigation on an old, yet imperfectly understood, phenomenon.

Theatrical Photography by Stage-Lighting

IN 1913, M. Monpillard deposited with the Société Française de Photographie a sealed communication giving particulars of a method developed by him for increasing the speed of ordinary and color-plates which made instantaneous exposures possible with the latter, and with the former enabled rapid exposures to be made of night-subjects. Shortly after the War, Dr. S. M. Burka worked out somewhat similar methods which have been widely employed in airplane photography; and in the last few years, M. Ninck, another French experimentalist, has published a number of papers on the subject, more particularly the hypersensitising of color-plates.

In March, 1913, Gimpel, using the method developed by Monpillard, showed at the Société Française de Photographie a number of views from a current presentation, "Kismet", at the Sarah-Bernhardt Theater in Paris. These were made with a hypersensitised Lumière Violet Label plates, using a lens working at F/4 with an exposure of two seconds, by ordinary stage illumination. This opening represented at that time approximately the maximum useful aperture in photographic optics. An English worker, Grun, however, using a liquid lens of his own design working at an aperture of F/1.5, made a number of successful photographs of stage-scenes by ordinary stage-lighting; but his objective did not give very sharp definition.

In the last few years, the introduction of large-aperture anastigmats, working at apertures ranging from F/2.5 to F/1.5, and the use of hypersensitised plates has made possible the photography of stage-settings by ordinary illumination with slow snapshot exposures, and numbers of striking examples of such work have appeared in the press in Great Britain.

In the current issue of the Société Française de Photographie, M. Gimpel recounts his experiences in using hypersensitised plates and two objectives working at F/1.8 and F/2.9; the exposures being 1/60 and 1/25 of a second respectively. The latter exposure was found to be ample, under good stage-illumination, and enables photographs of very animated scenes to be secured without danger of movement. It was mentioned in particular that a number of exceedingly natural photographs had been secured of ballet-dancing at the Folies-Bergères and at the Casino de Paris.

So far, little appears to have been done along such lines in this country. Some of our theater-going amateurs in the larger cities might well devote their efforts along this line. After one has reached a certain point in photography, specialisation becomes essential; and unless one does specialise, the result is shortly loss of interest in photography in general.

LONDON LETTER

CARINE AND WILL CADBY

It is not always easy to recognise a celebrity by his photographs, as we all know. The professional ones are too smooth and flattering, and the press snapshots too unkind; but we defy anyone to have recognised Dr. Lion Feuchtwanger from the photograph circulated by the press, because it was not he at all! It was a mistake, and he had been confused with another famous German with a very similar name, who is now in London. So last Sunday, when some of us were at a reception given by Mrs. Dawson-Scott to meet the author of "Jew Süs", and were expecting to see someone of bulk and mature appearance—according to the press-photograph—we found to our surprise a small, slim young man who seemed very little the kind of person one imagined responsible for such almost overpowering work.

We need not apologise for mentioning Mrs. Dawson-Scott by name, for is she not the founder of the P. E. N. Club? In fact, it was she herself who presided at the opening of the New York Branch, and who was so eager that Boston should also be represented.

Feuchtwanger certainly met a good many representative men and women at her house, and made a very favorable impression. Somehow, when the great are shy and retiring, it is very attractive; and, at one time, he seemed almost overwhelmed by the surging crowd that was pressing around him, voluble with compliments. "Ist es nicht schrecklich?" we whispered, and he agreed with pathetic heartiness.

Mr. E. O. Hoppé had also come to greet Dr. Feuchtwanger, both having met recently in Berlin. In fact, Mr. Hoppé had only just returned from holding a one-man show there. He had been invited by the municipal authorities to do so. They had lent one of their galleries for the purpose; and it had been in every way a great success.

"Why don't you give a show in London?" we asked. To which he replied, "Why don't you?" and there we left it.

We found that Mr. Hoppé knew our part of the country; in fact, as he reminded us, he has photographs of the Dorset Highlands in his book, "Picturesque Great Britain". But this is an old story, and at the moment he is much more concerned with "Beautiful America".

Just when photographic exhibitions have settled down to insisting on the rather dull but harmonious scheme of universal light mounting for all prints, a show of pencil-drawings of landscapes by Mr. C. W. Waddington at the Brook Street Art Galleries leads the way in a different and interesting direction. These are all framed in silver, and the effect of each is charmingly complete and unified. There seems no reason that photographs, which in many ways have a strong affinity to pencil-work, should not be somewhat similarly treated. There is little doubt that many prints suffer from the severe method at present in vogue, and would gain by a carefully chosen mount and frame that was complementary, not only to the tone, but to the composition of the picture.

The London Midland and Scottish Railway, one of our big amalgamations of small pre-war lines, supports a photographic society which is affiliated to the R. P. S. of Great Britain, and their third annual exhibition has just been held in the Board Room at Euston Station, London. This show reveals much pictorial merit that has not so far been seen at the big international exhibitions, and should become a test for workers who will in the future no doubt put their successful pictures before a wider audience. There is a "Beginners" and an "Advanced" section, and a cup is awarded in each by popular vote of the visitors.

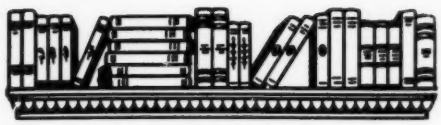
The director of the big German film "Luther" is in economical mood. It seems that the expense of brocade for court-scenes, especially in long historical films, ran into very large figures. It was necessary to have the real thing because of the uncanny truthfulness of the photographic lens. But the camera appears to have been hoodwinked at last, and the cheapest materials will be used for costumes throughout the whole of the above-mentioned film. Plain nettlecloth, so we are told, treated in a certain way, with patterns, folds, lace, and ornamentation painted on its surface, will photograph just like heavy brocade, and ordinary sateen can be made to look like the finest satin.

There are two processes involved in the treatment; the material is first saturated with paint in what seem to be rough stripes, and the skilled artist works in his pattern, folds, lace, and all, on the prepared surface. This truthfulness of the lens was once a stumbling-block with us. A well-known sculptor, who was also a friend, persuaded us to photograph some big figures on which he was at work. Each time we showed him prints of our results, made in various lightings and as near technical perfection—so we thought—as it was possible to get, he would glance at them, sigh, and appear aggrieved, remarking on our weakness for showing up his bad work! But we persevered, and eventually won his praise by seizing a prolonged twilight in which to make the exposure, thereby suppressing a certain amount of detail and hoodwinking the camera as to the finish and quality of the work!

The film question over here seems settling itself. Like the war in China, it grew too complicated, or perhaps one might more truthfully say, too boring to follow. Anyhow, there now appears to be satisfaction all around, especially felt, we should imagine, by Mr. Hitchcock, who is to receive £17,000 a year from the British International Pictures. It is the largest salary ever paid to any director in the British Isles, and Mr. Hitchcock is only twenty-eight.

We feel that we have met the American Ambassador in Italy; for have we not seen him and heard him speak? We were at a cinema in London last week to see and hear the Phonofilms, and witnessed an American phonofilm doing a little quiet propaganda for Italy, or rather showing us how they do that sort of thing in the States, for it was an American production. We were shown the wonderful military training of the Fascisti; we heard them sing their patriotic songs; and as a grand climax, we heard and saw Signor

(*Continued on page 114*)



BOOK-REVIEWS

Books reviewed in this magazine, or any others our readers may desire, will be furnished by us at the lowest market-prices. Send for our list of approved books.

AËRIAL PHOTOGRAPHS, CHARACTERISTICS, AND MILITARY APPLICATIONS, by Dache M. Reeves, First Lieutenant, Air Corps, U. S. Army. 307 Pages and 123 Illustrations. Price, cloth, $5.00. New York: The Ronald Press Company.

Whether the reader is interested in military matters or not, this timely book on aërial photographs is of great practical value to all photographers. The rapidly increasing employment of aërial photographs in map-making, exploration, engineering, and in the press make it imperative that those who view pictures made from an airplane be able to understand the characteristics and peculiarities of the aërial photograph. This is particularly true in the case of vertical aërial pictures. To the uninitiated such photographs are very likely to be similar to a cross-word puzzle. We have read Lieutenant Reeves' book with especial interest, as we have done a little aërial photography ourselves and missed the help of just such a book in our course of instruction.

It should be made clear that this textbook is confined strictly to the study and interpretation of aërial photographs. It does not go into the subject of aërial cameras, equipment, photographic flying, or the necessary training for aërial photography.

The chapters of particular interest to amateur and professional photographers are those which are devoted to General Information, Orientation and Scale, How to Examine Photographs, Light and Shade, Elevation, Natural Features, Works and Structures, and Marking and Annotating Photographs. In the military section of the book the general reader will find much of interest and value. Officers of the U. S. Army, Navy, and Marine Corps, and National Guard Officers will find in this book an important textbook written especially to help them in their duties. The writer of these lines is a Reserve Officer, Signal Corps, U. S. Army, and he recommends this book to every Reserve Officer who wishes to perfect himself in a clear understanding of the relation of aërial photography to his military duties.

The illustrations, typography, and text are excellent, and the author and publishers are to be congratulated in making this contribution to a better understanding of the vital importance of aërial photography in war as well as in peace.

THE PICTORIAL WORK OF THE ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, 1927. A Critical Dissertation, by F. C. Tilney, F.R.P.S. 47 text pages and 62 photographic illustrations. Price, paper, $2.50; cloth, $3.50. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

Of the many excellent annuals which are now making their appearance, the one devoted to the year's work of the Royal Photographic Society is one of exceptional interest and value to the pictorialist. Not only are the illustrations of great merit, but the helpful criticisms of that master-critic, F. C. Tilney, F.R.P.S., are an inspiration to all who love photography as an art. Incidentally, it may be added that much of the charm and appeal of Mr. Tilney's writings are due to his delightful mode of expression and the choice selection of words. In short, "The Pictorial Work of the R. P. S." is truly a pictorial and a literary treat. The typography and reproductions are unusually well done.

PHOTOGRAMS OF THE YEAR, 1927. Edited by F. J. Mortimer, F.R.P.S. 75 Pages of text and 94 illustrations. Price, paper, $2.50; cloth, $3.50. Boston: American Photographic Publishing Company.

The arrival of "Photograms" is always anticipated eagerly by amateur and professional photographers. An annual which is now in its thirty-third year of success, and which year after year has been the incentive for annuals in other countries than England, fully deserves the high position which it holds in the photographic world.

In arrangement and typography, "Photograms" is in its well-known dress. As always, it represents a splendid effort on the part of the printers and engravers. The illustrations include an excellent variety of subjects worthy of careful study. There are the usual number of landscapes, marines, figure-studies, and portraits. Several countries are represented by the work of their pictorialists. The usual review of work done during the past year appears in the text-pages, and is one of the most helpful features of "Photograms". Altogether, the volume is attractive, helpful, and merits its usual warm welcome.

DAS DEUTSCHE LICHTBILD, Jahresschau 1927. Edited by Robert and Bruno Schultz. 128 Pages and 128 illustrations. Price, cloth, $3.50. Boston: American Photographic Publishing Company.

It is a pleasure to welcome this new and excellent German photographic annual. For the past few years we have seen the annuals of other countries come and go, and we have seen them all improve in pictorial and typographical merit. In "Das Deutsche Lichtbild" we find a volume which seems to have been prepared as a result of adopting the best pictorial and typographical standards of the leading annuals of the world. In short, the publishers of the German annual are on even terms with other annuals with their very first efforts.

Of particular interest is the fact that the Germans have included splendid examples of scientific and nature photography, in addition to landscapes, marines, street-scenes, figure-studies, genres, and other more pictorial subjects. We believe that this is as it should be. Pictorial photography merits a high position; but who shall say that the scientific applications of photography are not of equal, and perhaps, greater importance to humanity? We have long felt that an annual, if it is to be a faithful cross-section of photographic progress in a given country, should include examples of all branches of photography as applied in that country.

With all due respect to the annuals from other countries, we believe that "Das Deutsche Lichtbild" will offer a greater variety of subject-material for study than is found in most of the current annuals. Frankly, there are some startling subjects of a more futuristic tendency than we have seen before. Yet, there is a strong representation of the ever popular, conservative pictorial photograph. The originality,

artistic and technical skill displayed in this new German annual merits the attention, and we believe the congratulations, of amateur and professional photographers of other countries. German photographers have given us of their best, and it is good for us to know that we shall be compelled to work hard and well to equal them. The typography is excellent; and the editors and publishers should feel well pleased with their work, for they have made possible reproductions which are exceptionally beautiful.

For those who can read German, there are several chapters written by photographic specialists which are of great practical value. As the importation of this annual is limited, we suggest early action in the matter of placing orders.

AMATEUR MOVIE CRAFT, by James R. Cameron. 142 Pages, 45 diagrams, and illustrations Pocket size. Price, paper, $1.00; cloth, $1.50. Manhattan Beach, New York: Cameron Publishing Company.

As further evidence of the phenomenal growth and popularity of amateur motion-pictures we have received the latest addition to the rapidly increasing number of excellent movie textbooks for the amateur kinematographer. The fact that these books are being published, and sold almost as quickly as published, indicates that those who questioned the permanency and the appeal of amateur motion-pictures were wrong.

Mr. Cameron has long been known for his books on professional motion-pictures, particularly those branches which deal with projection. He is a recognised authority and motion-picture technician. In turning his experience to serving amateur kinematographers he is offering convincing evidence of what he thinks of the future of amateur movies.

In "Amateur Movie Craft" he blends the technical, artistic, and dramatic parts of amateur kinematography in a manner which not only instructs but stimulates the reader. Of particular value are the chapters devoted to Selecting Our Movie Outfit; Projectors; Lenses; Lighting and the Cameraman; Fast Lenses; Lighting Equipment for Indoor Movies; Diffusion of Light; Fundamentals of Modeling with Light; Illumination *vs.* Distance; Color Filters; Motion-Picture Film; Titles and Sub-Titles; Trick Kinematography; Cutting and Editing; Putting on Our Show; Principles of Projection; Making-Up for Movies; and Photographic Range-Finders. The book is neatly printed, convenient in size, and will doubtless receive a hearty and well-merited welcome from amateur kinematographers who desire to obtain results of permanent artistic and technical value. We are glad to recommend this book to our readers.

The Ciné Miniature, Number 6

THE first volume of this helpful and practical little publication was completed with issue Number 6, devoted to "Winter Kinematography Outdoors". The editor and publisher, Mr. Leonard Cordell, has worked very hard to find his place in the photographic field, and we believe that he has found it. In fact, his little handbook has become very popular with amateur kinematographers. Beginning with the January, 1928, issue, the publication is to be enlarged to standard magazine size and is to be published monthly. If sincerity of effort, the desire to render service and to do constructive work in a comparatively new branch of photography really count these days, Mr. Cordell will make a success of his pioneering. We hope that he will, and he has our best wishes.

"Handbuch der Wissenschaftlichen Und Angewandten Photographie"

UNDER this title the well-known publisher, Julius Springer, of Berlin and Vienna, who is also the publisher of *Photographische Korrespondenz* announces a new reference work to be issued under the editorship of Drs. Novak and Hay of the Graphischen Lehr- und Versuchanstalt in Vienna. It is to be issued in five volumes, the first being devoted to lenses, shutters, and cameras; the second to photochemistry and photographic chemistry, emulsions, sensitometry, and the like; the third to the many applications of photography and to color-photography; the fourth volume will deal with the technique of reproduction, and the fifth, and last, volume with kinematography.

Why is it that we still remain almost wholly dependent upon German and Austrian workers for our principal reference works? Dr. Eder's "Handbuch" has been everywhere accepted as the standard since its appearance back in 1884, and is now being revised and reissued. It has never had a serious competitor as a reference work, with the possible exception of Fabre's "Traité Encyclopédique de Photographie." Even under unfavorable conditions in the publishing field, nearly all of the standard works on photography in German were revised and new editions issued. The publication of a work such as outlined above is an undertaking of no small matter, and undoubtedly reiterates the confidence which the publishers of technical works in Germany have in the ability of the public interested in the science of photography to absorb the edition and make of it a worthwhile venture. It is fairly certain that no publisher in either this country or in England would undertake the publication of a work of this nature, even if under the direction of the most competent authorities, unless subsidised by the Eastman Kodak Company or some similar organisation. Is there no demand in this country for authoritative works dealing with the science of photography, as the publishers claim; or are the publishers responsible for the lack of such works by their failure to recognise the demand? Are there in our universities and technical schools, and among our amateurs, those who are really and deeply interested in photography as a science, and not simply as a hobby, who would welcome a work of this kind; or is the interest in works of this nature confined to a scattering few, chiefly those connected with the scientific departments of the manufacturers of photographic materials? Speaking personally, I should like to know how our readers feel; and if they will write me in sufficient numbers, I shall try to make a statement of their collective opinions.

C. B. NEBLETTE.

London Letter

(Continued from page 112)

Mussolini making a speech to the Americans. He read it from a very obvious manuscript, and his expression, a trifle grim, never changed, while the American Ambassador's countenance seemed to radiate good will and human kindness. His speech, in our own tongue, with its attractive, slight transatlantic intonation, was shrewd, humorous, broad, and kindly, and gave just the needed human touch to the whole thing. "Excellent propaganda for America", said one of us as we groped our way out. "And so unconscious", said the other.

HERE, THERE AND EVERYWHERE

To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.

The P. A. of A. Forty-Sixth Annual Convention at Louisville

VICE-PRESIDENT CHARLES AYLETT announces that he has obtained, for the program of the forty-sixth Annual Convention, Mr. Richard N. Speaight of London, England. Mr. Speaight is known internationally. He is a past president of the Professional Photographers Association of Great Britain and Ireland. At the present time, he is honorable treasurer of the Association, and is known as being in the first rank of the photographers of England for the artistic quality of his work.

In addition, he is known on account of the fact that he has probably photographed more of the nobility and royalty of England and the European Continent than any other photographer. He has photographed Queen Victoria, King Edward, and other members of the royal family of England. In addition, he has been called to Madrid to photograph the royal family of Spain, and to Brussels many times to photograph the royal family of Belgium and other notables, including the President of France, the Crown Prince of Japan, the Crown Prince of Germany and the Prince of Wales.

He is a Fellow of the Royal Photographic Society, and for services in connection with the Children's Hospital in London he was made a Life Governor. During the War, King Albert conferred on him the Cross of Chevalier of the Order of Leopold II for photographic services rendered to Belgium.

University of Southern California Offers Motion-Picture Training

FOUR years' time may find the University of Southern California graduating Bachelors of Motion-Pictures, if such should be the degree offered for a new course in technical training for the motion-picture industry established recently.

The curriculum, which includes architecture and the fine arts, science and technique of kinematography, scenario and continuity writing, was planned by a university committee in co-operation with the Committee on College Affairs of the Academy of Motion-Picture Arts and Science.

Second International Photographic Salon Japan

OUR good friends in Japan were so encouraged by the success of the First International Photographic Salon of Japan which they held last year that they have decided to make it an annual event. We are glad that they are to do so and believe that our readers will welcome the opportunity to participate. The salon is held under the auspices of the All-Japan Association of Photographic Societies of Tokyo and Osaka. The salon will be on exhibition at the Asahi Building, Tokyo, May 1 to 14, inclusive, and at Asahi Hall, Osaka, June 1 to 7, inclusive, 1928. The last day for receiving prints will be March 31, 1928. Further particulars may be obtained by addressing The International Photographic Salon, Tokyo Asahi Shimbum, Tokyo, Japan. We have a supply of entry-blanks.

M. A. S. Photographic Salon

THE Middle Atlantic States Photographic Salon, in the Foyer of Benjamin Franklin Hotel, Philadelphia. Open to public from April 18 to 27, 1928. Under direction of John A. Erickson and Richard T. Dooner.

PRIZES

$300 gold—Best portrait print. Open to world. Entry fee, $2 each print.

$200 gold—Best commercial prints.

$50 each—Architectural Interior, Exterior, Ad-Selling, Historical Landscape, Technical, Industrial. Entry fee, $1 each print.

$600 American Cup (J. B. Schriever Trophy). Solid silver. No entry fee—Best three portrait prints. Permanent award after three times winning.

Prize-winning prints to become property of Middle Atlantic States. Prints may be reproduced if this right is not specifically reserved.

RULES GOVERNING

Photographic prints of any kind may be submitted.

Prints to be mounted on light-toned stock and conform to 11 x 14, 14 x 17, 16 x 20, 18 x 22, and contain maker's name and address on back. Sent to Richard T. Dooner, Benjamin Franklin Hotel, Philadelphia, Pa., before March 25, 1928.

Prints will be selected and judged by a competent jury, who shall have full power to accept or reject.

Prints will be properly lighted and hung under glass.

Salon certificate will be awarded each accepted print.

Prints will be returned promptly, but the M. A. S. assumes no responsibility for loss or damage to them.

Foreign contributors may send prints unmounted.

Any number of prints may be sent, but separate entry fee will be required for each print.

If prints are offered for sale or exchange, price, etc., should appear on entry-form.

To avoid customs on foreign entries, all prints should be sent by post only and plainly marked "Photographs Only. No Value. To Be Returned to Sender."

Printed catalog will be sent each exhibitor. Extra copies may be had at $2 per hundred.

Miss Lauffer Now an F. R. P. S.

UPON reliable authority we are informed that Miss Sophie L. Lauffer has been elected to a fellowship in the Royal Photographic Society of Great Britain. Many of our readers are familiar with Miss Lauffer's work, and, we are sure, will join us in offering congratulations.

New York Institute of Photography Progressing

SHORTLY after his graduation from the New York Institute of Photography, Mr. M. Gallo opened a portrait-studio in the newest and largest of the famous Fifth Avenue hotels, the Savoy-Plaza.

This is an appropriate ending for 1927, the most successful year of the eighteen which have passed since the inauguration of the New York Institute of Photography as a vital part of the photographic world.

To meet the demands of 1928, the Employment and Service departments of the Institute have been perfected so that adequate assistance may be given to every student, whether enrolled in the commercial, portrait, or motion-picture departments, and to both resident and home-study students.

Preparations have also been made to increase the efficiency of the departments which handle the correspondence of the many students who live outside the United States, and particularly of those who live at such a distance that the mail transport time is a matter of consequence. The many students resident in Asia, Australia, and the islands of the Pacific have made this step necessary.

Anyone who desires information regarding courses of the New York Institute of Photography or its work may address the Institute at 10 West 33d Street, New York City.

New Officers Cleveland Photographic Society

AT a meeting of the Cleveland Photographic Society, held Wednesday evening, January 4, the following officers and trustees were elected for the year 1928: Ralph D. Hartman, president; Prof. Homer D. Rankin, vice-president; George Cook, financial secretary; George Y. Tange, treasurer; Lloyd Dunning, secretary; L. B. Canfield, trustee, and Henry Mayer, trustee. The Club has shown a remarkable growth and now has approximately 160 members enrolled. It was also announced at this meeting by President Hartman that the Cleveland Photographic Society has been honored by being elected an associate member organisation of the Royal Photographic Society of London, England.

New Goerz 15 mm. Hypar Movie Lens

USERS of amateur motion-picture cameras will be interested to learn that the C. P. Goerz American Optical Company, 319 East 34th Street, New York City, have recently placed a 15 mm. Hypar lens on the market for Filmo and Victor cameras. It is a wide-angle lens, and fills a need at this time. Further particulars may be obtained from the manufacturers. Incidentally, the name of Goerz is well and favorably known in the amateur and professional motion-picture field as makers of special attachments with which to produce novel and pleasing effects. It will pay our readers to become acquainted with the accessories which are so well known as "Goerz Effects".

Photographic Society of Philadelphia

DURING the month of February, this society will show on its walls a one-man exhibition of pictorial prints, all carbros, by Louis V. H. Albers, of the Brooklyn Institute.

On January 26 the society gave a dinner to Charles F. Pancoast, a member throughout fifty years, and John Bartlett, another member of long standing and a well-known writer on photography. Dinner was served at the Art Club of Philadelphia. After dinner, Mr. Pancoast showed lantern-slides which he made, and Mr. Bartlett gave a reminiscent talk. Rutherford S. Bates, of the society, made animated portrait movies by artificial lights, using a special F/1.9 lens by way of experiment.

C. FREY.

The New Ansco Memoscope Projector

IN this issue will be found an announcement of the latest addition to the equipment and accessories of the Ansco Memo camera. There is no question that the Memo camera has met a need in modern photographic methods. These outfits, supplied at prices within reach of the average amateur and professional photographer, have opened an entirely new field of photographic activity. As a result, it has become necessary for the manufacturers to supply additional equipment and accessories as the demand for them became apparent. The Memoscope will be received with favor by the large number of Memo camera owners who have wanted a compact, effective projector made especially to handle Memo film. The Ansco Photoproducts, Inc., Binghamton, N.Y., will gladly send further particulars to all who are interested.

Richard Speaight at P. A. of A. Convention

THE Forty-Sixth Annual Convention of the Professional Photographers of America at Louisville, Ky., March 27, 28, 29, and 30, 1928, will have Mr. Richard Speaight, past-president of the Professional Photographers' Association of Great Britain and Ireland, as one of the principal speakers. He is known internationally as a photographer of royalty and the notables of Europe. Those who attend this convention will surely find in Mr. Speaight an excellent speaker, and likewise a very practical and successful photographer.

Seattle Camera Club Fourth Exhibition

THE Fourth International Exhibition of Pictorial Photography under the auspices of the Seattle Camera Club will be held May 11 to 24, 1928. The last day for receiving prints, foreign, April 5; domestic, April 15. Further information may be obtained by addressing the Seattle Camera Club, 422 ½ Main Street, Seattle, Wash. We have a number of entry blanks which we shall be very glad to mail to those who are interested. We feel confident that many workers will derive benefit from participating in this and other exhibitions. One never knows one's strength until it is matched against the strength of others.

Our Contributing Critics

(*Continued from page 105*)

RECOGNITION must be accorded this picture for its tonal value. The tones are distinct, yet grade into each other in a pleasing and harmonious manner. Of particular interest are the clouds, for their forms are artistic, suggestive, and beautiful.

The composition of the picture appears as being given little study. The central theme—June—is represented in the right portion of the picture, and is detracted from by the building, which is really not a part of this theme and robs the picture of unity in composition and attention. Also, there is nothing in the foreground (not even texture in the turf) to suggest scale; and other than the sky and clouds, there is no background, which results in the top of the ridge appearing as a "jumping

off" place. This placing of all objects in the middle ground, as well as the scarcity of shadows, diminishes our interest in the picture, for there is a too evident lack of depth.

Although the ground in the lower right of the picture rises and leads to the building, the eye does not follow this rise but focuses immediately on the building. Thus, even if one did overlook the incongruity of the title and theme and considered the building as the appropriate center of interest, as such it is much too prominent.

It seems to be generally agreed that a view of a façade of a building is less interesting and artistic than a view from a corner. Often a building is placed on a thirty- or sixty-degree angle with the picture-plane; and it is my opinion that if a similar angle were used here, interest would be increased in the picture and in the building, and that such interest would be centered on the portico, where it fittingly belongs. Such an angle would tend to increase the depth of the picture, which is desirable.

One other criticism is that the shrub-plantation nearest the center of the picture is isolated and bears no relationship to other plantations. A better way to connect the two interests could be found, perhaps, by a landscape-background; better still, since there are two themes, by making two pictures from the one.

ALLAN H. REID.

New Motion-Picture Camera

A MOTION-PICTURE machine which will make 48,000 exposures a second, and which will be useful in scientific and experimental work, has been invented and patented in Germany, says the American Trade Commissioner at Berlin. However, special apparatus must be used for such high speeds, for with a normal machine only 8,000 pictures every second can be obtained. This opens a tremendous field of application for scientific and experimental work for fast operations beyond the human eye, and for ordinary film photography, such as electric discharges, electrical switching apparatus, determination of the speed of bullets, operation of high-speed looms, sewing-machines, and so on.

Prints Showing Flora

ONE of the most complete collections of photographic prints of the wild flowers that abound in Yellowstone National Park has just been acquired by the park museum, as a gift from Miss Isabel Naureth of Roosevelt Lodge. There are approximately five hundred prints in the collection.

Photostat for Printing

PUBLICATIONS of photographic reproductions of typewriting have been used successfully for some time by the United States Coast and Geodetic Survey, particularly in the publication of the several reports of the Bureau recently issued.

Recent Customs Decision

SUSTAINING a protest of A. F. Cofod & Co., the United States Customs Court found that certain photographic film-negatives, developed in the United States, should have been taxed with duty, as claimed, at 2 cents per linear foot, under Paragraph 1453 of the Tariff Act of 1922, rather than at three cents per linear foot under the same paragraph, as assessed by the collector. In another decision, the court held that certain positive films, imported by Derutra, should have been assessed with duty at one per cent. linear foot under Paragraph 1453, and not at three cents under said paragraph (209122-G-45720-26 and 209121-G-2258-27).

Flexible Tariff

RENEWED recommendations will be made to Congress for a revision of the flexible provisions of the Tariff Act of 1922, says the United States Tariff Commission, which also seeks to revise Section 315 of the Act, authorising the commission to obtain foreign and domestic production costs, because it is impossible to get in actual dollars and cents what it actually costs to produce a commodity in a foreign country.

Aërial Photography Saves Time

THE use of aircraft for hydrographic surveying, by photographing areas from airplanes, has shortened the time required for such surveys, saved money, and produced superior survey-charts, according to a recent announcement of the Hydrographic Office of the Navy, which has published a long report on the subject by Lieutenant Logan C. Ramsey.

Photography Aids Spectrum Analysis

THE Bureau of Standards has issued a pamphlet on "Photography Helps Spectrum Analysis", showing how the recording by the camera of lines which the eye cannot see enables measurements of spectrum of zirconium to be carried farther than ever before. (Apply for Scientific Paper 548.) This paper describes the Bureau's measurements of the position of lines in the arc and spark spectra of zirconium, including work in the infra-red and ultra-violet regions.

Views of Yellowstone

PHOTOGRAPHIC studies of Yellowstone National Park, the result of six summers' sojourn, will be presented to the park museum upon completion by Mode Wineman, a Pasadena photographer. Before the collection is to be placed permanently in the Yellowstone National Park Museum, it will probably be placed on exhibition in Washington, D.C., Los Angeles, New York City, and Pasadena, Calif. Mr. Wineman is nationally known for his non-professional camera-studies of the national parks. He has already donated large collections of his creative art to museums.

Foreign Photographic Notes of Interest

THE use of cameras by amateur photographers in Austria and increased interest in amateur photography is being shown, according to a report from the American vice-consul at Vienna. Austria's imports of cameras have grown rapidly in recent years, with the keenest competition to American cameras on the Austrian market being the German product. While German-made cameras of the larger and more expensive types are considered superior to many other similar cameras sold in Austria, dealers are of the opinion that American brands of small inexpensive cameras lead in quality, although they cost more than German cameras.

Spanish imports of cameras and photographic equipment of size up to 13 x 18 centimeters declined in 1926, but imports from the United States increased considerably. Particularly noticeable in decline is the small-size camera from Germany, and a gain of over 100 per cent. on the part of the United States. Photo-

graphic accessory business, however, declined. The United States occupied first place in the supply of unexposed films in the Spanish market, with Great Britain and Germany showing heavy declines.

A recent invention in Denmark makes it possible to transfer photographs to porcelain before the process of burning, so that the picture appears beneath the glass. The glass is said to be entirely clear and transparent, and protects the picture against chemicals. The porcelain is finished in a light blue color.

F. E. KUNKEL.

Experiments with Photographic Emulsions

THE first of a series of reports on experiments being conducted by the Bureau of Standards on photographic emulsions, the light-sensitive coating of plates and films, has just been issued by the Bureau, relating its findings in researches conducted in the miniature plant at the Bureau.

The paper deals with the soluble salts of bromine, one of the raw materials used in emulsion-manufacture, and explains differences in the finished emulsion in terms of the chemical and physical properties of the bromines.

It is thought that, from systematic investigations such as this, important improvements must eventually be brought about in this branch of photographic work, a field in which the margin for improvement is at least ten times that possible in lens-making. Future reports will be issued as the work progresses.

Soap-Bubbles Used to Make Photographs

THE use of soap-bubbles filled with explosive gas for the purpose of studying gaseous reactions is described by the Bureau of Standards as an important discovery in making photographs possible through the transparent soap-film. The photographic records secured by the bubble device give all the quantitative dimensions necessary for the determination of thermodynamic equilibrium, and so forth.

Aërocartograph

"AËROCARTOGRAPH" is a new process for making contour-maps from aërial photographs. It was discovered in Germany, and was recently introduced into federal mapping-agencies.

Aërial Photographic Activities in the Philippines

DURING the month of October the Sixth Photo-Section, stationed at Camp Nichols, Rizal, P.I., delivered an eighty-square-mile photographic mosaic of the Fort McKinley Reservation and surrounding territory to the Philippine Division for use in connection with their winter-program. The Philippine Division intends to use a number of copies of this mosaic for purposes of training personnel in interpretation and mosaic reading. A duplicate set of photographic prints, which were used in assembling this mosaic, were furnished the Engineer Officer of the Philippine Department for use in revising the present maps of this area. At present a photographic mosaic of the City of Manila is being made in connection with the training program of the Sixth Photo-Section.

A number of altimeter tests are being carried out by this Section in an effort to determine one which will work satisfactorily for mosiac flying. It is the belief that the majority of altimeters in the Philippines have been affected by climatic conditions. Five altimeters have been mounted on a photographic airplane, and test-exposures are being made at various altitudes. From the scales of the photographs all the altimeters will be checked, and the best ones will be chosen for regular use.

New York City from the Air

A NEW motion-picture of New York City from the air, showing both day and night views, which are so clear and vivid that the spectator seems to be riding in the monoplane, was presented at the Roxy Theater, during the week beginning Saturday, January 21, under the title, "Your New York and Mine". It is a short feature-picture.

This aërial panorama of Manhattan's skyscrapers, bright lights, and parks has been pronounced a remarkable advance over anything of its kind ever made. The night-pictures are so lifelike and clear that signs of the Great White Way can be read. Previous night motion-pictures of New York City have been rather indistinct, and not even still-shots from the air, heretofore, have shown the world-famous night-lights distinctly.

The filming of "Your New York and Mine" was done under the direction of Major Hamilton Maxwell for the New York Edison Company. Long and arduous planning was necessary. Major Maxwell and his staff first carefully studied two thousand stills, picked out three hundred, and then reduced that number to twelve before they outlined the routes and angles.

Major Maxwell was the first photographic officer to enter the British Royal Air Force at the beginning of the War, abandoning his studio in London to do so. He made many air-pictures of the battle-fronts; and, at the close of hostilities, was in charge of all the photographic training of the British forces. He has flown over 2,400 passenger hours, a world-record, and is now engaged in air-photography in New York City.

"Everyone should go up in an airplane and see New York from the sky", he says. "It's one of the most magnificent scenes in the world. The finger of land, covered with tall buildings and surrounded by water, is a sight never to be forgotten."

For the benefit of those who cannot make the trip, Major Maxwell has produced this motion-picture. It shows New York City when the morning mists are vanishing before the sun, through the midday hours, the coming of twilight along Riverside Drive, and then the awe-inspiring night of white lights against a black background. Various tints are used to soften some of the scenes; and, unlike other air motion pictures which were made on perfect days, this one was made on a cloudy day in order that the cloud-shadows would give more life to it.

The monoplane had to swoop down as low as 2,000 feet to get the night-shots. There was hazard to this, as an accident might mean a land plane forced to light on water. The photographer, Albert A. Wetzel, had one of the latest makes of Akley cameras, and used a new kind of fast film. The pilot, M. M. Merrill, was an expert at maneuvering the plane into the right positions.

The photographic equipment cost $6,000, and the lenses alone were worth $1,500. The camera was so equipped that a one-inch lens used in making Times Square at 2,000 feet could be instantly changed for one of the 4- or 6-inch lenses needed for a close-up of a pyramidal skyscraper. A 12-inch lens was available for some day-shots. The pictures were made while the plane was traveling from 105 to 150 miles an hour. The film was arranged and edited by the Visugraphic Pictures, Incorporated.

—THIRD YEAR—

SPECIAL PHOTO-ERA TROPHY CUP

To Be Presented To The Organised

American or Canadian Camera Club

Whose members win the most prize-awards in the PHOTO-ERA monthly competitions during the months of September, 1927 to June, 1928, inclusive.

THE OBJECT

To stimulate increased activity among members of organised camera clubs in the United States and Canada and to encourage the establishing of new camera clubs

Read the Conditions and the Rules

1. Any member in good standing of an organised camera club or photographic society in the United States or Canada is eligible to compete for points for his club, in addition to receiving for himself the usual prize-awards.
2. The club or society of which he is a member must be a regular subscriber to PHOTO-ERA MAGAZINE. *Individual club members need not be subscribers to compete.*
3. A handsome solid silver cup (valued at $50.00) and suitably engraved will be presented to that camera club or photographic society whose members win the largest number of prize-awards in PHOTO-ERA monthly competitions—Advanced and Beginners'—during the months of September, 1927 to June, 1928, inclusive.
4. The PHOTO-ERA TROPHY CUP may be retained by the winning club for one year. It must then be surrendered should another club win the cup. However, when a club wins the PHOTO-ERA TROPHY CUP three times—not necessarily in successive years—the cup will then become the permanent property of that club.
5. In case of a tie, a special competition will be held to determine the winner.
6. Each month the score will be printed in PHOTO-ERA MAGAZINE so that all may know the standing of the various camera clubs or societies.
7. IMPORTANT. Those who wish to score points for their own camera club must write the name of their club plainly in all communications, on data-blanks and on prints. Otherwise proper credit cannot be given.
8. Each prize-award will score one point. That is, there are five prizes altogether to be awarded each month in both competitions. If members of the same club should happen to win all five, their club would be credited with five points. If not, the club would be credited with one or two points, depending upon whether or not any of its members received a prize-award. *Honorable Mention awards will not be credited.*
9. Our regular competition rules will apply to all prints submitted.

PHOTO-ERA MAGAZINE

WOLFEBORO, NEW HAMPSHIRE, U.S.A.

(Seattle Camera Club Winners of Cup, 1925-1926)
(Fort Dearborn Camera Club Winners of Cup, 1926-1927)

THE EDITOR'S CORNER

Photo-Era Trophy Cup Scores

NOT in many months has only one prize-winner been a member of a camera club. Dr. Max Thorek is the one prize-winner, and he is a member of the Fort Dearborn Camera Club of Chicago. We were in hopes that the judges would find prize-winning prints from members of other camera clubs; but this month seems to have been an off month with regard to winning prizes on the part of camera club members. This was not due to any lack of interest or to lack of entries. In some way the prints failed to convince the judges and, therefore, prizes went to contestants who were not club members. It is of interest to note that the Fort Dearborn Camera Club has won back its point which was lost in the November competition. We can vouch for the integrity of the judges who did not try in any way to help Dr. Thorek regain the lost point for his club. It just happened that his print was considered best by unanimous vote, and in consequence "to the victor belong the spoils". Dr. Thorek proved himself to be a good loser, and now he has won his way back fairly, to his own credit and to that of the Fort Dearborn Camera Club. According to our records the standing of the camera clubs in the PHOTO-ERA TROPHY CUP RACE is as follows:

Seattle Camera Club	2
Brooklyn Institute	2
Fort Dearborn Camera Club	1
Cleveland Photographic Society	1

We Need Your Vote for a Decision

DURING the past few months there has been considerable pressure brought to bear upon us to revise our present method of designating specific subjects for each month's advanced competition. Once before, the same question came up, and those who preferred the specified subjects outnumbered those who wanted no restrictions. However, conditions and persons change as time goes on. We have an open mind on the subject. We wish to serve the majority and to benefit the greatest number. We ask you to write us and to state which form of competition you prefer—specified subjects, or no restrictions. We shall let your letters decide the matter, and we give you until March 30, 1928, to muster all the votes you can for or against a change. We repeat, your votes will decide the matter finally and without any reservations. Therefore, please let us hear from you as soon as possible.

The Hard Lot of the Competition Judges

WE have often wondered what some of our readers would do and how they would feel to have someone place a pile of about two hundred prints before them and ask them to select three prizes, and perhaps twenty-five Honorable Mention prints from the collection. Furthermore, how would they like it to know that whatever selection they made would be displeasing to a considerable number of contestants and readers? This is the "happy" situation which our competition-judges meet month after month. They are roundly discussed and "cussed", no matter what they do. Frankly, conducting monthly competitions is hard work, for which the judges receive very little credit. Then, too, suppose that after making his selection of awards the reader had the task of packing up and returning a hundred or more prints. We believe that after a month or two of this sort of thing, our reader would be a little less inclined to write in to the editor to question this or that award or to ask that his prints be returned the same day that the judges make their awards. We do not contend that our competitions and their conduct are above criticism, and that there is no room for improvement; but we do wish to make it clear that our judges are trying to carry on a thankless task to the very best of their ability. We are making certain changes which we hope will enable us to render better service, and we hope that all our readers will give us the benefit of their constructive criticism, so that there may be the best of understanding and "a good time enjoyed by all".

Is It Coming to This?

SPEAKING of conducting competitions, we wonder whether it is a wild stretch of the imagination to conceive of a group of judges seated near a 16-mm. projector watching reel after reel being thrown on the screen while they award prizes and Honorable Mentions to the best reels submitted in a competition for amateur kinematographers. If reels can be mailed for development, and to friends and relatives for home-projection, why should they not be entered in a competition and be projected for the inspection of a group of judges? At first thought, it would seem that the judges would have a long session if any considerable number of reels were entered; but perhaps some form of competition could be devised which would reduce the actual projection-time to the minimum. At any rate, is such a competition beyond the realm of future possibility? We think not.

Our Associate Editor's Health Improved

IT is with pleasure that we are able to report that our Associate Editor, Mr. Wilfred A. French, has so far recovered from his long and severe illness as to prepare this month's material for his department, "Our Illustrations". It was quite a task, and he had to work a little at a time to avoid becoming overtired. Nevertheless, he did it successfully. We are sure that those who enjoy Mr. French's monthly reviews of our illustrations will be glad to join us in extending to him the sincere wish that his recovery may be rapid and permanent. We also wish to thank Mr. Ernest H. Washburn again for his splendid co-operation during Mr. French's illness in preparing material for this department.

Please Speak Right Up!

SOMETIMES subscribers will wait several months before reporting delays or the non-arrival of PHOTO-ERA MAGAZINE. We are ready to do our part; but we can do nothing until we are notified.

MOTION-PICTURE SECTION

FEATURING

The AMATEUR KINEMATOGRAPHER

Edited by

HERBERT C. McKAY, A.R.P.S.

Dean of the New York Institute of Photography
Author of several motion-picture text books

AND THE

ANNOUNCEMENTS OF MOTION-PICTURE MANUFACTURERS

AND

DEALERS IN AMATEUR EQUIPMENT AND ACCESSORIES

A Department Conducted for and by
Photo-Era Readers and Advertisers

THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY, A.R.P.S.
Dean New York Institute of Photography

The Realm of Oberon

FAIRIES, elves, ogres, gnomes, giants, and all of the "Little Folk"—how we used to love them! And how we do even now, if we would but admit it! Mythical creatures? Perhaps; who knows? But this much is true—that gift of the magician, the motion camera, enables us to reproduce scenes from actual life that might well have been staged in Fairyland. No, the writer does not mean to allude to the animation of puppets. Only straight photography is necessary; although, of course, a dash of manipulation is desirable, as it is in any film work.

Writers of scientific fiction have hinted that each atom may be an inhabited system similar to our solar system. They also say that our "universe" may be but a group of molecules in a monstrous organic being! Perhaps this is scientifically possible. It is not probable; but it does serve to stimulate our imaginations and to show us that the environment with which we are familiar is of the most insignificant importance. The world with which we are familiar through our unaided senses is but a small part of the complex habitation we occupy. We all know the sun, moon, and stars when we see them. Astronomy presents too much involved mathematics to really interest us as a serious study. We like to peer into the tiny ocular of the gigantic telescopes and look at the rings of Saturn or the canals of Mars, and there our interest usually lags.

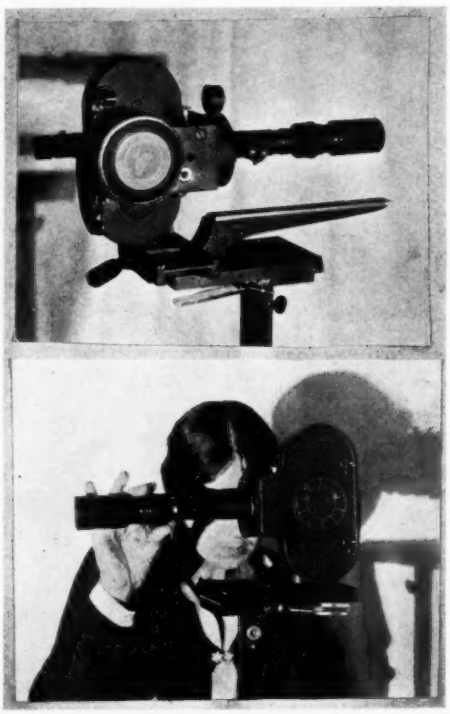
But what of that almost invisible world which lies at our feet? Henri Fabre has found that insects provide material for a lifetime of study! Men and women devote themselves to the study of organisms so tiny that they may be seen only through the aid of powerful microscopes, and still others try to solve the problems presented by organisms so tiny that not even the most powerful microscopes can reveal them!

But we are not savants! To us there is a world similar to Fabre's, open for investigation and photography—a world inhabited by those beings who filled the pages of our childhood's story-books; a world whose inhabitants are beautiful, terrible, attractive, repulsive—in fact, they present every aspect associated with the mythical beings of Fairyland.

This world is to be found in the woods and in the fields, in parks, and in city backyards! Here we may find the ants, the spiders, the butterflies, the flies, and the myriad creatures who make up our insect-world. They present comedy and drama as well as pure incident. A well photographed and cleverly edited insect-film will prove to be one of the most interesting in any library.

How may we record the happenings of this minute world? Unfortunately, we must leave the romance of Fairyland behind, and turn our attention to apparatus and mathematics—but not to any great extent. Remember that those who give beauty to the world only do so through hard labor. Beauty is a reward not to be lightly won. But our trouble will be amply repaid by the film obtained.

First, we must consider the problems of conjugate foci. The most difficult part of this work is learning to consider the name with equanimity. The actual study is quite simple.



Top: The telephoto lens-extension and reflex focusing-device, as adapted to the Victor Camera.

Bottom: Focusing the telephoto lens with reflex focusing-device.

We all know that the nearer any object is focused upon, the farther the lens will be from the film. Thus we have two foci, one in front of the lens and one behind it. The lengths of these two foci have a definite relation, and this relation is expressed in terms of conjugate foci. The front focus is known as the anterior or major conjugate, the rear one as the posterior or minor conjugate.

The major conjugate we designate as M, the minor as m. We also make use of two other factors: the focal length of the lens, which we will call F, and the ratio of the size of the original to the size of the image upon the film, which ratio we express as R.

Opticians have given us these formulæ whereby the values of these factors may be determined:

$$m = F + (F/R)$$

Also

$$M = F + (FR)$$

Then it follows that

$$mR = M; \text{ also } m = M/R$$

So much for conjugate foci. We will illustrate the practical use of the formulæ later.

We also know that the longer the focal length of the lens, the larger will be the image obtained. Therefore, we should expect to use a lens on our sub-standard camera of the greatest practical focal length. This is the 6-inch lens, or about that length—the writer uses the 6¼-inch Telestar.

We have a negative-size approximately 7 x 10.5 millimeters in size. Upon this we wish to photograph the nest of an ant-lion which measures two inches in diameter. In order to show this to advantage, it must occupy not more than half the width of the screen. Let us say that out field is a little over four inches (105 millimeters) wide. In this case R will equal 10. The negative-image is to be one-tenth natural size. As the enlargement on a 40-inch screen is approximately 100 ×, we will have the nest on the screen ten times life-size, or about twenty inches in diameter—a very desirable scale of enlargement.

Now how will we obtain this 1/10th-size image upon our film, using the 6-inch lens?

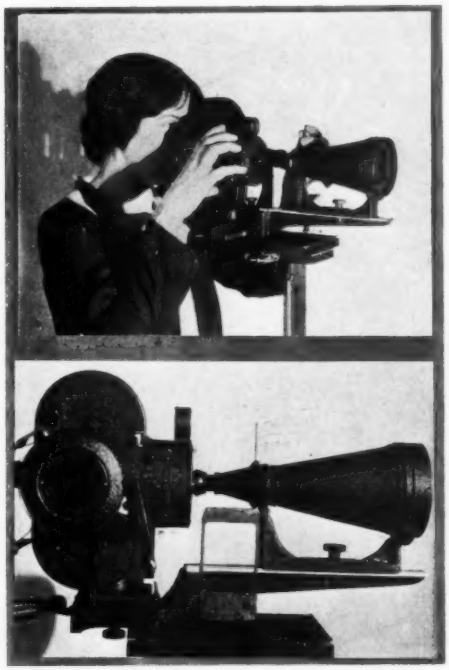
We have seen that $m = F + (F/R)$. In this case $m = 6 + (6/10)$ or 6 3/5 inches. As $M = F + (F/R)$ $M = 6 + (6 \text{ x } 10)$ or $M = 66$ nches.

Unfortunately, our 6-inch lens is not calibrated for such a short distance as five and one-half feet. However, let us continue. We wish to show a close-up of the ant-lion's head in such a manner that the negative-image is one-half actual size. Our ratio is then 2. In this case $m = 6 + (6/2)$ or 9 inches, while $M = 6 + (6 \text{ x } 2)$, or 18 inches. This is still worse. We have the opportunity to make a wonderful film; but we are handicapped by the lack of (a) the necessary lens-extension and (b) a means of focusing the lens upon such a near object. A short time ago such equipment was unobtainable; but through the courtesy of the C. P. Goerz American Optical Company, these problems are easily solved.

This company now makes a small device readily attached to Filmo and Victor cameras which makes it possible to focus a lens visually. This Reflecting Focusing Device consists of a short barrel which screws into the lens-socket of these cameras. This barrel has a tube extending from one side, which contains a compound microscope for focusing. A prism in the body of the device reflects the lens-image for this purpose. When the lens is accurately focused, a button is moved; this in turn removes the prism from the path of the rays and gives an unobstructed light-path from the lens to the film. This solves the focusing-problem.

It is evident that as this device is inserted between the camera and the lens, the back focus of the lens will be extended to such an extent that it is useless for ordinary work. To obviate this, the Goerz Company equip their lenses with separable barrels. Each lens is provided with an extension the exact length of the barrel of the focusing-device. When this is removed, the lens, with the focuser, is ready for ordinary long-range work; but when lens and extension are both mounted upon the focusing-device, a great lens-extension is obtained, which makes it possible for us to focus upon the ant-lion's nest or other similar object.

The combination of the focusing-device and the 6-inch lens makes possible screen enlargements of from ten to fifty times natural size. It is an item of equipment which should be in the hands of every student and lover of nature. Films made through its help will be of the utmost value.



Top: Using the iris.

Bottom: The Goerz set adapted to Victor Camera.

That Professional Effect

MANY, very many, disappointed amateurs cannot understand why their films do not screen with that desirable professional "effect" seen so often in theatrical films. The exposure is right, the films bright, sharp, and clear, yet they are obviously amateurish. The titling may be perfect, the edition faultless, yet the films are not satisfactory. This experience is disheartening, more particularly as the amateurs cannot, in most cases, point out any particular fault and say, "That is wrong".

Just what is the underlying cause? It is difficult to understand that the fault lies often—usually, in fact—with the equipment. The wonderful amateur cameras, costing as much or more than the standard cameras often used on news-work, are thought to be mechanically perfect. They are as perfect as the circumstances permit; but they lack that one essential characteristic which the kinematographer calls "flexibility". This can be remedied; but ninety-nine per cent. of the cameras now in use lack the flexibility so necessary for the production of this "professional effect".

This is not usually an objection, as all of these cameras make wonderfully perfect record films; but in those cases where the professional screen-effect is

desired, then flexibility must be obtained through the use of accessories.

One of the most valuable of these is the outside iris. This iris gives the "circle" effect, or "round-closing dissolve". It is very useful in landscape-work; in separating sequences, and in opening and terminating films. It gives relief from the abrupt change of scene which is so objectionable in some films. These iris-effects may be used with all of the American 16-mm. cameras available at this time.

The use of masks adds considerably to the value and pleasure to be derived from the motion camera. These masks are not those used in double exposure and other kinds of trick-work, but the so-called "effect" masks. These are of many types. First, we have the "cut-out" masks. These masks obstruct certain portions of the edges of the frame. Some of these masks give a circular or "telescope" shape; another shape is that of overlapping circles, or the "binocular" shape. Other shapes are square, diamond, card-pip, oval, keyhole, star and, so forth.

Another effect-mask is the "fog-filter". When placed in front of the lens, this gives us a hazy, soft picture which resembles the appearance of objects seen through a fog.

Another replaces the "chiffon four-way mat". Instead of being adjustable on all four edges, as the professional four-way mat is, this is a fixed mask with translucent, serrated edges. The picture obtained has edges in which the definition is softened, and the central illumination falls away slightly. This gives a very beautiful effect.

The "white iris" effect is similar to the last effect mentioned; but in this case we have a central, circular portion which is clear and sharp, and all the rest of the frame is softened and hazy.

The soft-focus filter should be mentioned here. In fact, many of the masks mentioned partake of the characteristics of both mask and filter. The soft-focus filter placed over the lens gives an effect which is soft and hazy throughout.

Another of this set is the graduated mask. This mask gradually cuts down the light toward the top of the frame, thus obtaining a proper sky-exposure without the use of any color filtering effect.

It is evident that such masks cannot be used with the usual camera as supplied by the manufacturer. In this connection, it may be remarked that all standard cameras are supplied with brackets to support the Goerz Effects, and this effect-set is the first accessory purchased by the professional kinematographer. Until recently there was no corresponding amateur apparatus with the exception of the outside iris. Recently, however, the C. P. Goerz American Optical Company introduced the amateur set, which corresponds to the professional effect-set. This complete set comprises an accessory which adds greatly to the amateur camera. The first piece of this set is the supporting bracket. This bracket may be attached to any ordinary tripod; but the use of a home-portrait stand is advised. Attached to this bracket is the "sliding base". This is a part of the device which gives the amateur the benefit of one of the greatest aids to accurate photography, direct focusing. Upon this sliding-base are mounted a focusing microscope and the camera proper. The movement of a handle at the rear of the sliding-base causes the base to move laterally a distance equal to the distance between the axes of the microscope and camera-lens. When moved to the right, the scene is focused by means of the microscope and its lens. The camera lens is then set to correspond, the base moved to the left, and the set-up is completed. As the camera-lens now lies in the exact position occupied by the microscope lens during the visual focusing, it follows that the camera will record the scene as composed and focused while observing it through the microscope. This gives an infallible check upon both composition and focus.

1. *Inserting tille-card in holder.*
2. *Inserting card in mask-box.*
3. *Hand cranking the camera.*

When masking effects are desired, the mask-box is mounted upon the bracket in front of the lens. The mask-box is fixed in position so that the focusing-microscope and camera alternately take their proper positions behind it. Between the mask-box and the lenses the iris is fixed. The illustrations show the arrangement clearly.

Not only is this set used for the purposes named, but is also used for making titles. In this work, the title is written upon a piece of mat-celluloid and inserted in the mask slot of the mask-box. This lens-axis is then directed toward some bright, uniform light, the set-up is focused by means of the focusing-microscope, and the exposure made, preferable by means of the hand-crank.

In short, the entire set frees the amateur from the limitations of the amateur camera and gives his outfit a thoroughly professional flexibility.

Making the Home-Movie

THERE is a growing interest in home-production Most of the present-day amateurs know how to make the exposure. In fact, poor films are becoming more and more rare; but too often the films are meaningless when projected. The old snapshot album is too tedious to wade through, but it is no worse than an endless succession of unrelated shots with the kinematographer keeping up a continuous sing-song explanation.

The prevention of this "end result" consists of several distinct parts. In the first place, the exposures must be made properly—not photographically speaking, either. The scene must be arranged or analysed so that it may be presented in some logical manner. Each "shot" should be a sequence of several related scenes, rather than one scene. A subject cannot be adequately "covered" in a single scene. If this scene is short, the subject cannot be presented for a sufficient length of time to make it interesting. If it is presented in proper length, the scene becomes monotonous. So we must accept the fact that each subject should have at least three scenes.

In the second place, although pictures are beyond doubt more effective than words in most cases, there are times when words surpass pictures. Then we need the title. Every film should be adequately titled.

Again, we find that the proper presentation of a subject necessitates certain sequences in exposure, and the inclusion of a certain amount of superfluous action which needs editing before the film is projected.

If the scene is one which is to be prepared for, a certain plan of exposure should be formulated in order that all points of interest may be included and the unimportant excluded. This last consideration brings us to the logical starting-point of any amateur production.

Let us remember that if a subject is not worth the trouble of proper preparation, it is not worth the film necessary to record it.

The first step in any such preparation is the preparation of the scenario. A motion-picture scenario is a literary form; but this form should not be prepared in amateur work. In fact, incident is followed by the amateur continuity. For the sake of simplicity and in accordance with popular usage, we shall use the word "scenario" to denote the amateur continuity.

The underlying theme of any motion-picture shot is the spirit of the action presented. From a single idea we develop incident, from incident we pass to detail, and from detail to the continuity.

The starting-point in the development of a photo-dramatic incident is the basic idea. For example, we decide that a fishing-trip would make an ideal film. This may be handled in two ways. We shall first consider the usual and inferior procedure.

The camera is stowed in among the tackle merely as a good thing to have along in order to make the film-record. It is usually packed away and left in seclusion until the fisherman arrives at his camp. The first day he is too tired or not inclined to unpack the instrument. Then he goes out and "tries the water". Days pass, and the vacation is almost over when he remembers that a film has to be made.

The camera is dug out, a short shot of camp is made—deserted. Then some haphazard shots are made of the stream, and, finally, the camera is set up on a likely hole, the action locked, and the fisherman begins casting. He forgets the camera, and starts to fish. The result is that the remnant of film left in the camera is used up on this one fishing shot.

After the return home the film is finished, and in time it is returned to the ambitious kinematographer, who invites a few friends in to see it. The projector is set up and threaded, the lights turned out, the projector started and allowed to run until the angler can focus the lens; then he stops it and remarks: "By the way, I was so hurried in the first few days that I couldn't make any shots; but there is a point or two I must tell you before the film is run. You see, when I got there, Joe (my guide, you know) wasn't at the train to meet me, so I had to start out to camp alone. I got a rattletrap flivver and we started out"—and so forth *ad infinitum*.

The tale, broken and monotonous, runs on in the dark until every guest has the "heebee-jeebees". After a half hour or so the host winds up, "And from then on I guess the film will tell the story".

The screen flashes directly upon the deserted camp and the tale is resumed: "Joe was away, and I didn't want to set up the tripod; so the motion is hard to see, but anyway this is the old camp. This is the pool where I nearly got that—oh, no! it isn't, that is the one where—well, never mind, this is the one I meant in the first place. See that crooked branch hanging over the left bank, right there I—here is a real shot! Right over there on the right, see that strip of beach? Right there last summer I put on a brown speckle—well, it's gone now. Now here is where I shine—"

Is it any wonder that the guests leave with sighs of relief? The film may have been photographically perfect; but the lack of proper preparation ruined the effect sought.

Let us consider how the true amateur would film the same series. Incidentally, we shall see illustrated the process of building the record scenario. This will serve us well in the later construction of the artistic or dramatic scenario.

In the process to be explained will be found the essentials of the usual vacation or travel scenario, which may be constructed in the same manner.

The starting-point: A fishing-trip.

Detail development: Any film should show a progress toward a crisis and then the finale. The progress should be one of continuous growth of interest. Instead of lines leading the eye into the picture, the incident should lead the mind to the crisis.

Development of the theme: The start of the trip, *i.e.*, overhauling the tackle—the actual journey, start and finish—arrival at the camp—getting settled—inspecting the water—trying the water—the cast—the battle—victory—supper—the return journey.

Here we have the progress of events outlined. This outline is now developed into the scenario.

Scene 1. Interior—Semi close-up—John's Den.

In the den. Tackle scattered about the desk. John seated at the desk looking over a book of flies. He smiles, lays them down, picks up a rod and tries it, but stops with a look of dismay as he knocks over a vase which stood upon his bookcase. (*Insert 1.* Tip of rod knocking vase off bookcase.)

Scene 2. Exterior—Railway station—Long shot.

John alights from taxi and enters station.

Scene 3. Exterior—Country railway station—Medium shot.

John alights from train at small wayside station, and looks about in hesitation. Finally, he sees a rickety flivver at one end of the platform. He hurries toward it.

Scene 4. Exterior—Semi close-up—Station.

John bargaining with driver of flivver. Owner nods, and John climbs in.

Scene 5. Exterior—Long shot—Finishing camp.

Guide preparing evening-meal outdoors. He stops, looks over his shoulder, and exits right.

Scene 6. Exterior—Long shot—Roadway.

Flivver coming down road into camera.

Scene 7. Exterior—Medium shot—Roadway.

Flivver stops. Guide runs forward. John shakes his hand and drags his luggage from the old car. They exit as the automobile starts to turn.

Scene 8. Exterior—Medium shot—Camp.

John and guide eating and talking. Fade or circle out.

Scene 9. Exterior—Long shot—Camp.

Circle in. The next morning. John comes from the camp-shack, and, picking up tin wash-basin, exits toward river.

Scene 10. Same—Medium shot.

John seated eating breakfast.

Scene 11. Same—Long shot.

John, with pipe in his mouth and creel on shoulder, starts away from camp and disappears down a path. Circle out.

Scene 12. Exterior—Long shot—River.

Circle in. John comes from woods and enters a pool which he starts to whip. He wades up stream. Cut to

Scene 13. Exterior—Long shot—River.

Action as in Scene 12.

Scene 14. Exterior—Long shot—River.

Similar action to preceding two shots. He makes a cast and has a strike. Cut to

Scene 15. Exterior—Medium shot—River.

John playing his fish. His excitement is plainly shown.

Scene 16. Exterior—Medium close-up—River.

The fish leaping from the water.

Scene 17. Exterior, same as Scene 15.

Scene 18. Exterior—Medium close-up—River.

John lands his fish, and drops it in the creel. He winds up his line and starts to the camp.

Scene 19. Exterior—Long shot—Camp at night.

John and his guide eating supper by the firelight.

Scene 20. Exterior—Long shot—Camp.

The next morning Jack and the guide come from the shack with packs on their backs and start down the rough roadway. In the distance they turn and look back, and then disappear beyond a turn. Circle out.

Here, in twenty scenes, we have the story; but there are breaks. So we go over it and make out the title sheet. It is understood that in the final copy of the scenario the titles are inserted in their proper places, but not in the actual construction as a rule.

Title 1 (main title)—"Fishing on the Scokeag."

Title 2—"From the Library of John D. Smith."

Title 3 (Introductory)—"Every spring a voice comes calling to the old Scokeag."

Title 4 (between Scenes 2 and 3)—"Jim failed to meet the train."

Title 5 (between Scenes 3 and 4)—"But a flivver saved the day."

Title 6 (between Scenes 4 and 5)—"Jim was cooking supper when he heard us from afar."

Title 7 (between Scenes 7 and 8)—"The best part of camp life."

Title 8 (between Scenes 10 and 11)—"All set!"

Title 9 (between Scenes 13 and 14)—"Luck at last."

Title 10 (between Scenes 17 and 18)—"Victory!"

Title 11 (between Scenes 18 and 19)—"The last night."

Title 12 (between Scenes 19 and 20)—"Goodbye till next year."

Title 13—"And so back to work!"

Title 14 Finis.

Here we have a scenario without literary pretentions, but a homely little scenario which anyone can make and which will ensure that our completed film will mean something. It is flexible, we can change it at any time; but it gives us something definite to go upon, and as a result our film will be of interest when we invite the group of friends to see it.

You will have noticed one thing. John appears in all shots. When you make the fishing film, the actual fishing must take secondary place. You must take a friend along to run the camera. The lock action is all very well for an emergency; but the lone fisherman should not try to make a personal film. A good friend, or a wife, if you have one who is interested in both fishing and motion photography, should go on this one trip at least.

Later we shall consider the more ambitious phases of amateur film production.

A New Cinophot

I UNDERSTAND that the Drem Products Corporation is about to remodel the Cinophot to read directly to 1/32 of one second for cameras such as the Ciné Kodak and other cameras having this time of exposure. The scales will retain all of the diaphragm-stops usual in this type of camera; that is, from F/2 to F/16. Nevertheless, the Cinophot will retain all of its other present features for exposures at different time-settings on all other amateur and professional uses.

Few photographic accessories have enjoyed the popularity accorded the Drem exposure-meters, and justly so. There is no doubt that the new Cinophot will be welcomed by amateurs and professionals in all parts of our country. This new improvement is due to the untiring efforts of Mr. Joseph M. Bing, the American representative of the Corporation. Despite a recent serious and painful accident, Mr. Bing went right ahead with the study and experimentation which resulted in the new Cinophot design.

Industries and Scenery of Canada Filmed

ABOUT 30,000 feet of film will be used to photograph Canadian industries and scenic spots from coast to coast by a German film company, to be shown on all North German Lloyd lines and throughout Germany generally.—F.E.K.

Motion-Pictures Measure Gravity

PERMANENT records in motion-pictures of the vibrations of a tuning-fork against a free pendulum, in connection with longitude observations and gravity measurements, is the latest wrinkle in experiments by the Bureau of Standards. An oscillograph element records its motion on the film of a special high-speed camera, giving a record forty feet in length.—F.E.K.

A Southern Delicacy

A GENTLEMAN—"How did you enjoy the Mardi Gras in New Orleans?"

Another College-Man—"The best I ever ate."

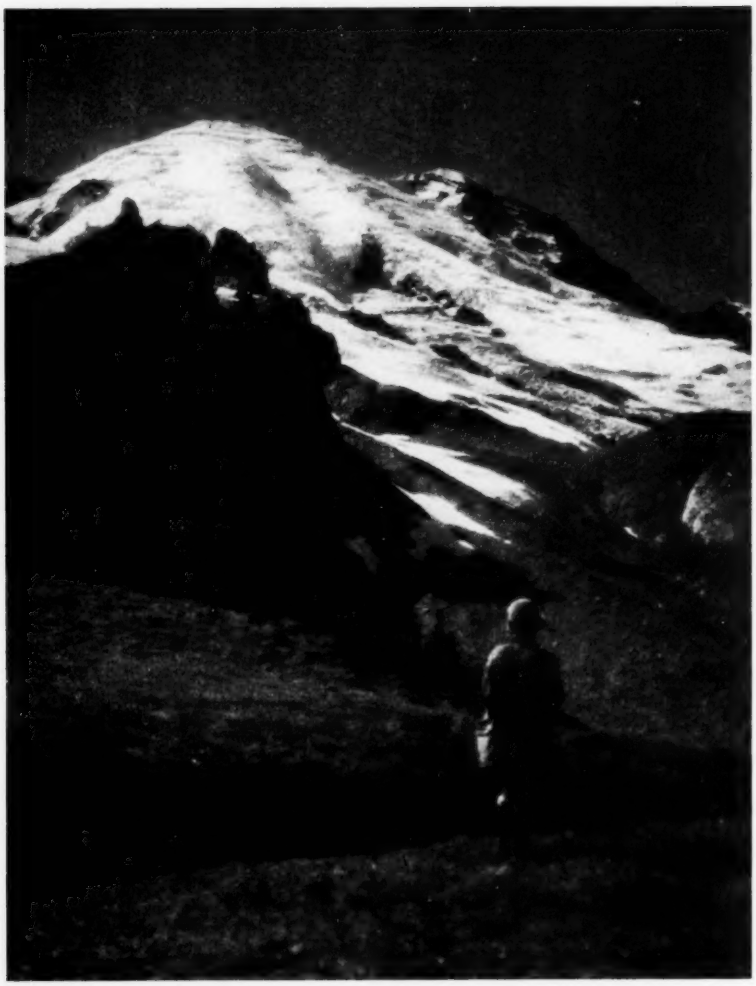
Exchange.

Heydemeter—A light-meter for determining exposure.
Highlights—The lightest parts of a picture.
Hood, Lens—A tube or box designed to protect the lens from light not needed to form the image, such as strong side lights or direct sunlight.
Hurter & Driffield—A system of ascertaining the relative speeds of photographic emulsions; named after the inventors.
Hydroquinone—A developing chemical.
Hypo—The photographic nickname for hyposulphite of soda (sodium thiosulphate) or its solution. It dissolves the sensitive silver-salt from the image after development and "fixes" it from further light-changes.
Image—The picture produced by a lens.
Image, Real—An image formed by a lens or curved mirror that can be shown on a screen.
Image, Virtual—An illusion image produced by a negative lens. It cannot be shown on a screen, as the rays which produce it do not come to a focal point.
In-and-Out Movement—That part of the intermittent movement which moves the claws in and out of the film perforations.
Index of Refraction—A number which indicates the relative power of different kinds of glass to bend light-rays.
Industrial Films—Films showing manufacturing processes and production of materials.
Infra-Red Rays—The invisible radiant heat of the lower end of the spectrum.
Instructional Films—Films intended for teaching purposes; instructional is used in a much narrower sense than educational.
Intensify—To increase the density and contrast of a photographic image with a chemical solution.
Interior—Any motion-picture scene representing an enclosed space, a studio-scene.
Inversion—All photographic lenses invert the image of the object in the camera.
Keyhole—A camera mat having the shape of a keyhole.
Kinematographer—The expert photographer who operates a kiné camera.
Kliegl—A type of hard light for illuminating motion-picture settings.
Kliegl Eyes—A burning sensation affecting the eyes caused by the intense light from lamps of the Kliegl type.

Machine Development—Development of motion-picture film by automatic machinery.
Magazine—The light-tight container for film used on a camera; also called retort.
Magnesium-Torch—A flare giving an intense white light used for exterior at night, and in caves and interiors where electricity is not available.
Main Title—The name of the photoplay as a whole.
Make-up—Theatrical grease-paint and accessories used to beautify or alter the features of actors. Also means rôle or character, as "His 'make-up' is an Indian".
Maltese Cross—The star which is part of a Geneva intermittent movement.
Manuscript—The typewritten story, scenario, or continuity.
Mask—A mat used next the film or front of the lens to block out a portion of the picture.
Meter—A measuring instrument. In motion-picture photography there are several kinds: light-meter, speed-meter, footage-meter, etc.
Metol—A developing chemical.
Metric System—The French system of weights and measures; it is often used in compounding formulas.
Microscope—Microscopes are often used for accurate focusing and for calibrating focusing-mounts.
Miniatures—Miniature sets are often used, generally in conjunction with trick-photography, in making scenes that would otherwise be prohibitive on account of expense.
Mount—The part or mechanism which holds the lens-barrel.
Movement—The intermittent mechanism of a motion-picture camera.
M. Q.—Abbreviation for Metol-Quinol, the active ingredients of the most commonly used developing solution for motion-picture film.
Negative—The photographic image produced in the camera from which the positive prints are made.
News-Films—Films of topical and current events.
Objective—An image-forming lens.
Operator—Any person operating a machine; but specifically in kinematography a projection-machine operator.
Optical—Pertaining to lenses.
Orthochromatic—Giving correct color-value.

Pam or Pan—To revolve the camera to make a panoramic view.
Panchromatic—Sensitive to all colors.
Panorama Head—The revolving device on a motion-picture tripod which permits the making of panoramic views.
Paramidophenol—A developing-agent.
Pathé—Name of a French firm which manufactures motion cameras and films.
Pathé Movement—The harmonic cam intermittent.
Pedagogical Pictures—Pictures for school and college use for instruction.
Persistence of Vision—That faculty of the sight which causes an impression of light to persist for a short interval after the light has ceased.
Perspective—That property of a picture which gives the illusion of distance.
Persulphate—A chemical which reduces density and contrast at the same time.
Photo-Dramatist—An author who writes photoplays.
Photo-Meter—A meter for measuring light or exposure.
Photoplay—A drama in motion-picture form.
Pillow Distortion—A lens-fault which causes the image of parallel lines to curve inward toward one another.
Pinhole—A pinhole may be used as a lens; but the image is faint and diffused and requires long exposure.
Plot—The basic foundation of a story.
Positive—Any print from a negative is a positive, but in kiné parlance a positive is a print or film from a motion-picture negative.
Positive Stock—Unexposed sensitive film intended for printing from motion-picture negatives. It is slower and more contrasty than negative-film.
Principals—The principal characters of a photoplay.
Prism—A bar of glass of triangular section.
Printer—A machine for printing positives from motion-picture negatives.
Probus Paint—An acid and alkali resisting paint much used in photo-laboratories for painting tanks and trays exposed to the action of developing solutions.
Projector—A machine for exhibiting motion-pictures on a screen.

Kodak—Often applied indiscriminately to the Eastman Kodak Company and all their products.
Laboratory—A place where films are developed and finished.
Lacquer—Celluloid-solutions, either colored or transparent, with which nearly all camera-parts are coated for protection and finish.
Lantern-Slide—A photograph on glass for projection on a screen.
Latent Image—The photographic image before development.
Latitude—The range of exposure within which a photographic emulsion will produce a satisfactory picture.
Lead—The leading character in a photoplay, either male or female.
Leader—An obsolete term for subtitle. The blank film at the beginning and end of a reel of film.
Lens—There are lenses of hundreds of varieties for thousands of purposes; but the word is used most commonly in photography in referring to the lens which forms the photographic image.
Lens-Barrel—The metal tube in which a lens is mounted.
Lens-Board—That part of the camera on which the lens is mounted.
Lens-Hood—See Hood.
Lens-Mount—In many motion-picture cameras, the lens-mount is also the focusing-device.
Lighting—Arranging artificial lights or controlling natural light to obtain any particular effect in a picture.
Lighting, Line—See back light.
Loading—Putting film in retorts or plates in holders or threading a new retort into the camera.
Locale—The locality or environment in which a sequence takes place.
Location—Any place away from the studio used as a scene background.
Location-Man—A person who finds locations suitable to the scenario.
Long Shot—A scene photographed with the camera set at a distance from the action; a full view.
Loop—The slack portion of film above and below the intermittent claws, which allows them to operate without tearing the film.
Lumière Carpentier Movement—The same as the Pathé or Harmonic Cam intermittent.



"GOOD-BYE, RAINIER!"
DR. K. KOIKE
HONORABLE MENTION—VACATION-PICTURES